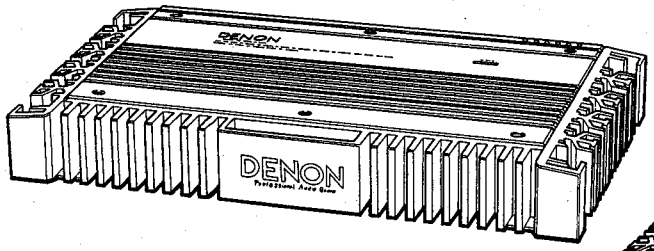
DENON

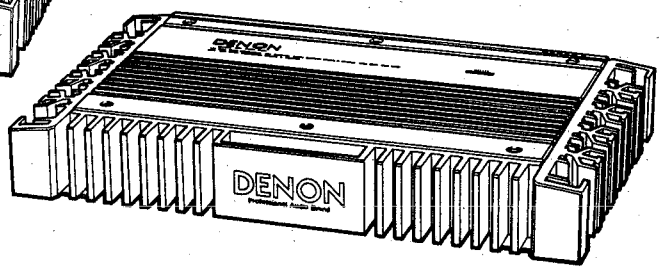
Hi-Fi Stereo Amplifier

SERVICE MANUAL

MODEL DCA-3500
DCA-3400



DCA-3500



DCA-3400

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NIPPON COLUMBIA CO., LTD.

FEATURES

• DCA-3500

- 3/5 Channel Power Amplifief with Built-in Subwoofer Drive.
  Maximum Power Output
  5 Channel 40 W x 4 + 80 W (Subwoofer)
  (1 kHz/4 ohms, T.H.D. 1%)
  3 Channel 80 W x 2 + 80 W (Subwoofer)
  (1 kHz/4 ohms, T.H.D. 1%)
- Non-Negative Feedback Amplification.
- Non-Switching Class-A Amplification.
- Subwoofer Amplifier with Crossover Network.
- "Compact Star"TM Convection Cooling Heatsinks
- DC Power Terminal Block connections are quick and secure.
- Pulse Regulated Power Supply
- Ground Isolation Amplifier
- Remote Power On/Off
- Variable Input Sensitivity
- Convenient Power Indicator
- Built-in Protector
- Gold-Plated RCA-type Inputs.

• DCA-3400

- 2/4 Channel Power Amplifier
  Maximum Power Output
  4 Channel 40 W x 4 (1 kHz/4 ohms, T.H.D. 1%)
  2 Channel 80 W x 2 (1 kHz/4 ohms, T.H.D. 1%)
- Non-Negative Feedback Amplification.
- Non-Switching Class-A Amplification.
- "Compact Star"TM Convection Cooling Heatsinks.
- DC Power Terminal Block connections are quick and secure.
- Pulse Regulated Power Supply.
- Ground Isolation Amplifier.
- Remote Power On/Off
- Variable Input Sensitivity.
- Convenient Power Indicator.
- Built-in Protector
- Gold-Plated RCA-type Inputs.

SPECIFICATIONS

Power Output	
5-Channel	40 W x 4 + 80 W in to 4 ohms, 1 kHz at 1% T.H.D.
3-Channel	80 W x 2 + 80 W in to 4 ohms, 1 kHz at 1% T.H.D.
Power Output	
5-Channel	28 W x 4 + 60 W from 20 Hz to 20 kHz with 0.05% T.H.D.
Frequency Response	5 Hz – 200 kHz (–3 dB)
Subwoofer Crossover	80 Hz/120 Hz Selectable High cut –18 dB/oct Low cut –12 dB/oct
Signal to Noise Ratio	90 dB (IHF A Weighted)
Input Sensitivity/Impedance	200 mV – 2 V (Variable)/10 k ohms
Speaker Impedance	4 ohms
Dimensions (W x H x D)	400 mm x 53 mm x 214 mm (15-3/4" x 2-3/32" x 8-27/64")
Weight	4.5 kg (9 lbs 15 oz)

Power Output	
4-Channel	40 W x 4 into 4 ohms, 1 kHz at 1% T.H.D.
2-Channel	80 W x 2 into 4 ohms, 1 kHz at 1% T.H.D.
Power Output	
4-Channel	28 W x 4 from 20 Hz to 20 kHz with 0.05% T.H.D.
Frequency Response	5 Hz – 200 kHz (–3 dB)
Signal to Noise Ratio	90 dB (IHF A Weighted)
Input Sensitivity/Impedance	200 mV – 2 V (Variable)/10 k ohms
Speaker Impedance	4 ohms
Dimensions (W x H x D)	365 mm x 53 mm x 214 mm (14-3/8" x 2-3/32" x 8-27/64")
Weight	3.9 kg (8 lbs 10 oz)

Design and Specifications are subject to change for improvement without prior notice.

After the DENON Power Amplifier DCA-3500 and 3400 is securely installed, make the connections as follows.

* Remove the ground cable (–) from the battery before installation to prevent damage to unit or the automobile's electrical system by miss-connection.

1) Connect the pre-out from your component to the input of DCA-3500 and 3400.
2) Connect the speaker wires to the speaker terminals of DCA-3500 and 3400.
   * Make sure the polarity of left and right speaker line is observed.
   * Never connect the negative (–) sides of each speaker together.
   * Never make the plus and minus wire short-circuit.
   * Never connect the negative (–) side to the car chassis.
3) Secure the ground wire to a clean bare metal spot on the car chassis. Make sure paint or coating is scraped away for best connection.
   (The wire gauge should be 10 ~ 12AWG.)
4) Connect the remote cord to the remote control terminal of your indash player.
   (The wire gauge should be 18AWG.)
5) Connect the ACC cord to the ignition terminal.
   (The wire gauge should be 18AWG.)
6) Connect the battery cord directly to the positive (+) terminal of battery.
   (The wire gauge should be 10 ~ 12AWG.)

* Connect both battery cords (BATT 1, BATT 2) and both ground cords (GND 1, GND 2).

* Make all connections securely to prevent noise. Bind up the cords by tape after connection.

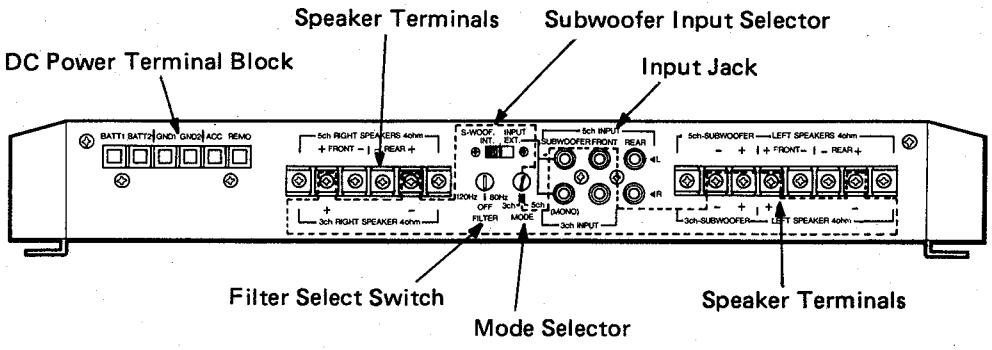
* Confirm again that your connection follows this instruction manual, re-install the parts of your automobile as they were and re-connect the negative (–) cable to the negative (–) terminal of the battery.

* If your indash player does not have a remote terminal, consult your DENON Dealer for alternate hook up.

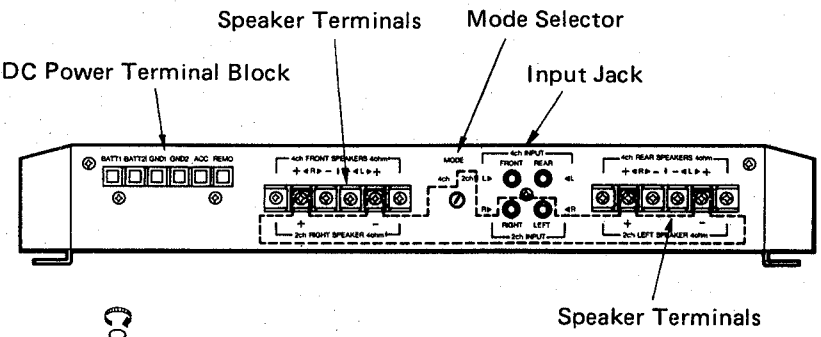
* Filter select switch (DCA-3500 only)
The FILTER select switch permits the cutoff frequency of the Crossover Network to be switched from 80 Hz to 120 Hz or OFF. Set the switch in the desired position.
If the system is used with the filter select switch set in the OFF position, then reverse the polarity of the subwoofer speaker connection.

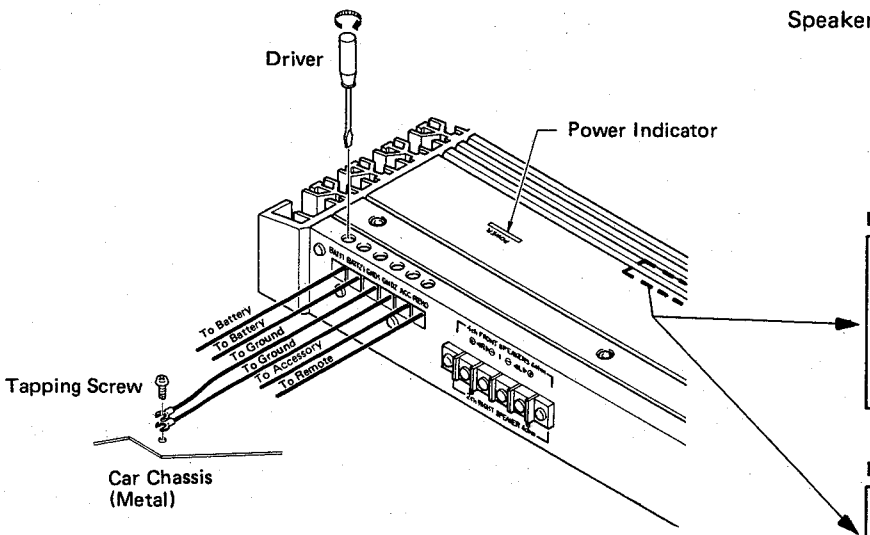
CONNECTIONS

● DCA-3500



● DCA-3400





DCA-3500

INPUT SENSITIVITY

			LOW HIGH
5ch	REAR	FRONT	SUBWOOFER
3ch	—	L/R	SUBWOOFER

DCA-3400

INPUT SENSITIVITY

4ch	REAR		FRONT
2ch	LEFT		RIGHT
	LOW	HIGH	LOW HIGH

Please use the optional cord kit AK-110 or AK-140, available from your dealer.

	AK-110	AK-140
2P RCA PIN-PIN CORD	1.5 m	5 m (GOLD PLATE)
ACC CORD	1.5 m	5 m
BATTERY CORD	2 m	6 m
REMOTE CORD	1.5 m	5 m
Y TYPE REMOTE CORD	0.1 m	0.1 m

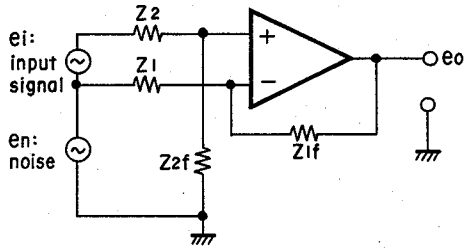
Tighten the GROUND, BATTERY and REMOTE wires securely by inserting a supplied screwdriver in the round holes on the top of the panel. 5 mm is appropriate for the length of the inner, stripped wire.

CIRCUIT DESCRIPTION

• DCA-3500

1. Ground Isolation Amplifier

DCA-3500 utilizes a ground isolation amplifier intended to eliminate ignition and alternator noises of vehicle that are coming in to the power amplifier with the input signal and the ground line.
This circuit is shown in the following figure.
Only the case when it becomes $Z_1 = Z_2$, $Z_1 f = Z_2 f$ in this circuit, the output will become $eo = Z_1 f/Z_1 e_i$, thus no noise "e_n" contained in the output.
Since DCA-3500 selecting the input sensitivity by the voltage amplifier, Z_1 and Z_2 values can be changed by the switch.



2. DC-DC Converter

When the REMOTE and ACCESSORY terminal of DCA-3500 is applied a voltage, a voltage will applied to pin 11 and 12 of IC402. The output of a square wave oscillated by C407 and R421 connected at pins 5 and 6 will conveyed to pin 9 and 10 to switch TR503, TR504, TR509 and TR510. This output will go through the primary of T502 and T504 to power stage (TR501, TR502, TR505, TR506, TR507 and TR508) in the secondary side of T502 and T504. After amplified, it will pass through the primary of T501 and T503 and applied to rectifying circuit in the secondary side to get DC power voltage. This power voltage is ±28V and ±30V.

3. Protector

DCA-3500 employs a built-in protector to protect amplifier and speaker against damaging in an abnormal condition. This protector works in the following three abnormal conditions.

1. Excessive current flow at speaker terminal due to terminal short.
2. Extraordinary voltage rise at speaker terminal.
3. Excessive temperature rise of heat sink.

For the protection, IC101 is used. A voltage applied to pin 1 or 2 of IC401 rises and exceed the detecting value, the relay drive stage in IC turns to OFF and breaks the relay of power amplifier output point, accordingly to cut the output power to speaker.
When the amplifier return to normal condition and a voltage at pin 1 and 2 of IC401 becomes lower than the detecting value, the relay driver stage in IC automatically turned ON and energize the relay of power amplifier output point, thus delivers the output power to speaker.

a) Overload Detector

When excessive current flows at speaker terminal, a voltage applied to emitter resistor of power transistor in last stage will go up and turns ON TR606 or TR11 or TR221 or TR12. Then TR212 will turn ON, and a voltage at pin 1 of IC401 rises and exceed the detecting value causing to cut the output power to speaker.

b) DC Detector

If there existing a DC voltage at + or − speaker terminal of either channel, a voltage divided by R418, R419 and R420 will apply to pin 2 of protecting IC. At the same time, the other channel speaker terminal is imaginary grounded. Meanwhile if a voltage at pin 2 exceeds detecting value the output power will not be delivered to speaker terminal.

c) Thermal Detector

A voltage divided by R415, positor TH401, TH402, TH403 and TH404 is applied to pin 1 of IC401 through D411. In normal temperature the resistance value of posistor is lesser, but when the temperature rises and exceeds to a certain extent, the value rapidly turns to great. For this reason, when the temperature goes up, the voltage at pin 1 will increase and at a certain temperature, the voltage exceeds the detecting value of pin 1 and the output to speaker will be cut.

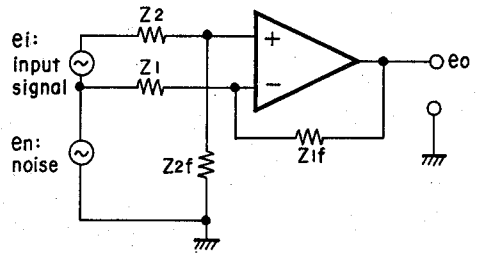
4. ON/OFF Mute

DCA-3500 employs a function to detect a pop originating power on/off and cuts the output power to speaker terminal by the relay. This function is also performed by IC401.
At the time of turning on the power, the time constant of R405 and C401 causes to delay voltage rise at pin 7. When it rises to the detecting value, the relay will activate to prevent producing pop.
At the time of turning off the power, pin 4 detects a pop from REMO terminal through R404 and de-activate the relay to prevent producing pop prior to the discharge of big capacitors C507, C510, C524 and C527 in the power source.

• DCA-3400

1. Ground Isolation Amplifier

DCA-3400 utilizes a ground isolation amplifier intended to eliminate ignition and alternator noises of vehicle that are coming in to the power amplifier with the input signal and the ground line.
This circuit is shown in the following figure.
Only the case when it becomes $Z_1 = Z_2$, $Z_1 f = Z_2 f$ in this circuit, the output will become $eo = Z_1 f / Z_1 e_i$, thus no noise "e_n" contained in the output.
Since DCA-3400 selecting the input sensitivity by the voltage amplifier, Z_1 and Z_2 values can be changed by the switch.



2. DC-DC Converter

When the REMOTE and ACCESSORY terminal of DCA-3400 is applied a voltage, a voltage will applied to pin 11 and 12 of IC301. The output of a square wave oscillated by C332 and R320 connected at pins 5 and 6 will conveyed to pin 9 and 10 to switch TR301, TR306, TR353 and TR354. This output will go through the primary of T301 and T351 to power stage (TR301, TR302, TR351 and TR352) in the secondary side of T301 and T351. After amplified, it will pass through the primary of T302 and T352 and applied to rectifying circuit in the secondary side to get DC power voltage. This power voltages is ±28V.

3. Protector

DCA-3400 employs a built-in protector to protect amplifier and speaker against damaging in an abnormal condition. This protector works in the following three abnormal conditions.

1. Excessive current flow at speaker terminal due to terminal short.
2. Extraordinary voltage rise at speaker terminal.
3. Excessive temperature rise of heat sink.

For the protection, IC201 is used. A voltage applied to pin 1 or 2 of IC201 rises and exceed the detecting value, the relay drive stage in IC turns to OFF and breaks the relay of power amplifier output point, accordingly to cut the output power to speaker.
When the amplifier return to normal condition and a voltage at pin 1 and 2 of IC201 becomes lower than the detecting value, the relay driver stage in IC automatically turned ON and energize the relay of power amplifier output point, thus delivers the output power to speaker.

a) Overload Detector

When excessive current flows at speaker terminal, a voltage applied to emitter resistor of power transistor in last stage will go up and turns ON TR11 or TR111 or TR12 or TR112. Then TR201 will turn ON, and a voltage at pin 1 of IC201 rises and exceed the detecting value causing to cut the output power to speaker.

b) DC Detector

If there existing a DC voltage at + or — speaker terminal of either channel, a voltage divided by R61, R161, R62, R162 and R209 will apply to pin 2 of protecting IC. At the same time, the other channel speaker terminal is imaginary grounded. Meanwhile if a voltage at pin 2 exceeds detecting value the output power will not be delivered to speaker terminal.

c) Thermal Detector

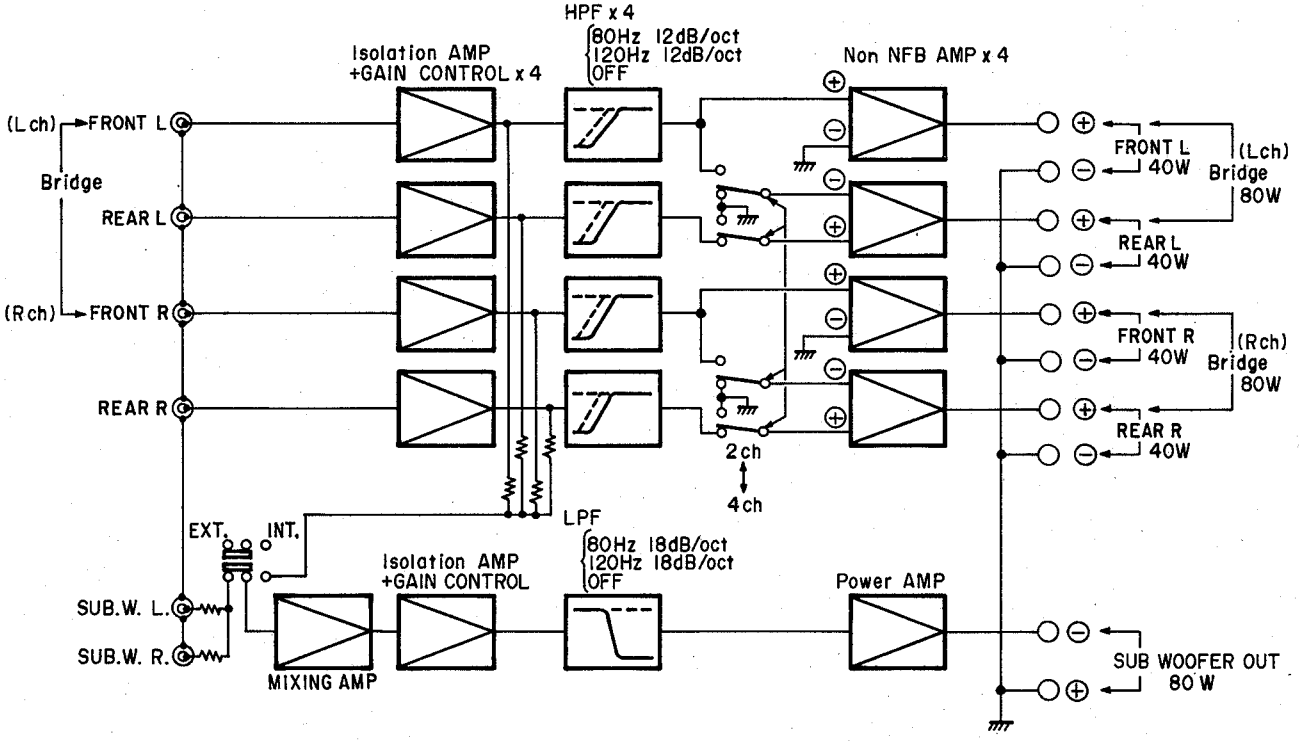
A voltage divided by R207, posistor TH201, TH202 and TH203 is applied to pin 1 of IC201 through D201. In normal temperature the resistance value of posistor is lesser, but when the temperature rises and exceeds to a certain extent, the value rapidly turns to great. For this reason, when the temperature goes up, the voltage at pin 1 will increase and at a certain temperature, the voltage exceeds the detecting value of pin 1 and the output to speaker will be cut.

4. ON/OFF Mute

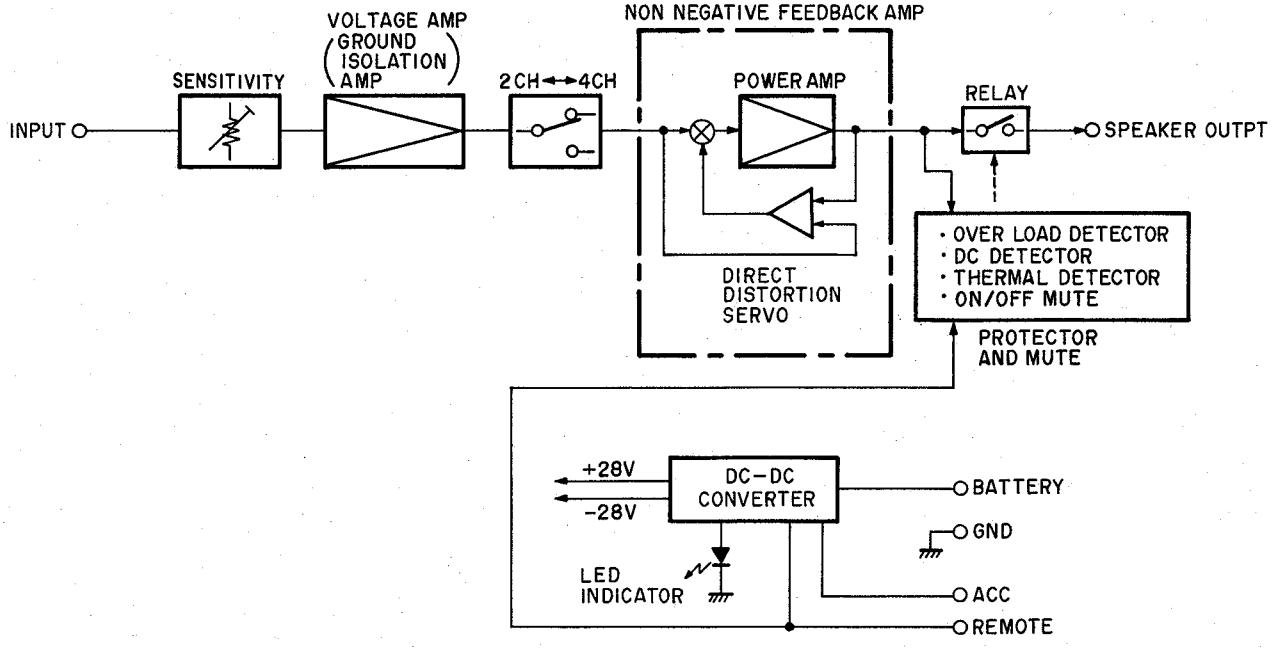
DCA-3400 employs a function to detect a pop originating power on/off and cuts the output power to speaker terminal by the relay. This function is also performed by IC201.
At the time of turning on the power, the time constant of R210 and C205 causes to delay voltage rise at pin 7. When it rises to the detecting value, the relay will activate to prevent producing pop.
At the time of turning off the power, pin 4 detects a pop from REMO terminal through R211 and de-activate the relay to prevent producing pop prior to the discharge of big capacitors C311, C315, C363 and C366 in the power source.

BLOCK DIAGRAM

- **DCA-3500**



- **DCA-3400**



METHOD OF ADJUSTMENTS

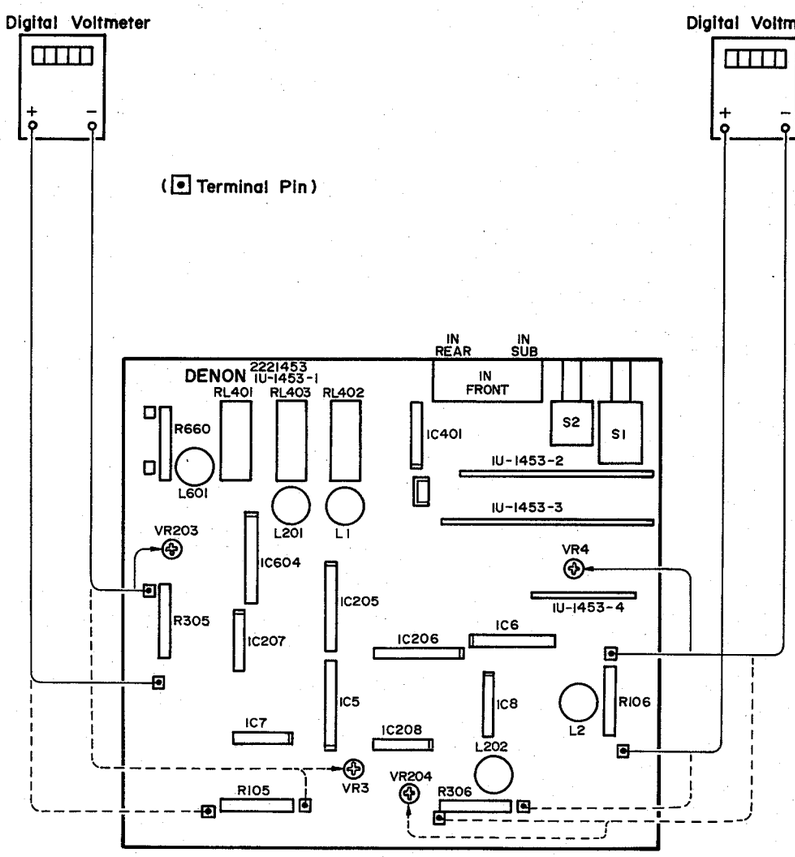
When making adjustments, be sure the power supply is at the rated voltage and the room air is in normal condition with respect to temperature and humidity.

• DCA-3500

Idle Current Adjustment

Turn on the power and warm up more than five minutes. Obtain 22 mV DC across the emitter resistor (R105, R106, R305 and R306) of last stage power transistors by means of adjusting VR003, VR004, VR203 and VR204. The idle current at this time is 50 mV DC.

The top panel acts as cooling body. Therefore, when turn the power supply on without equipment of the top panel in adjusting idle current case, take care not to supply current more than 3 minutes to avoid the transistor being broken by the overheated. And you could supply power current after the inner cooling body came down as much as normal temperature.

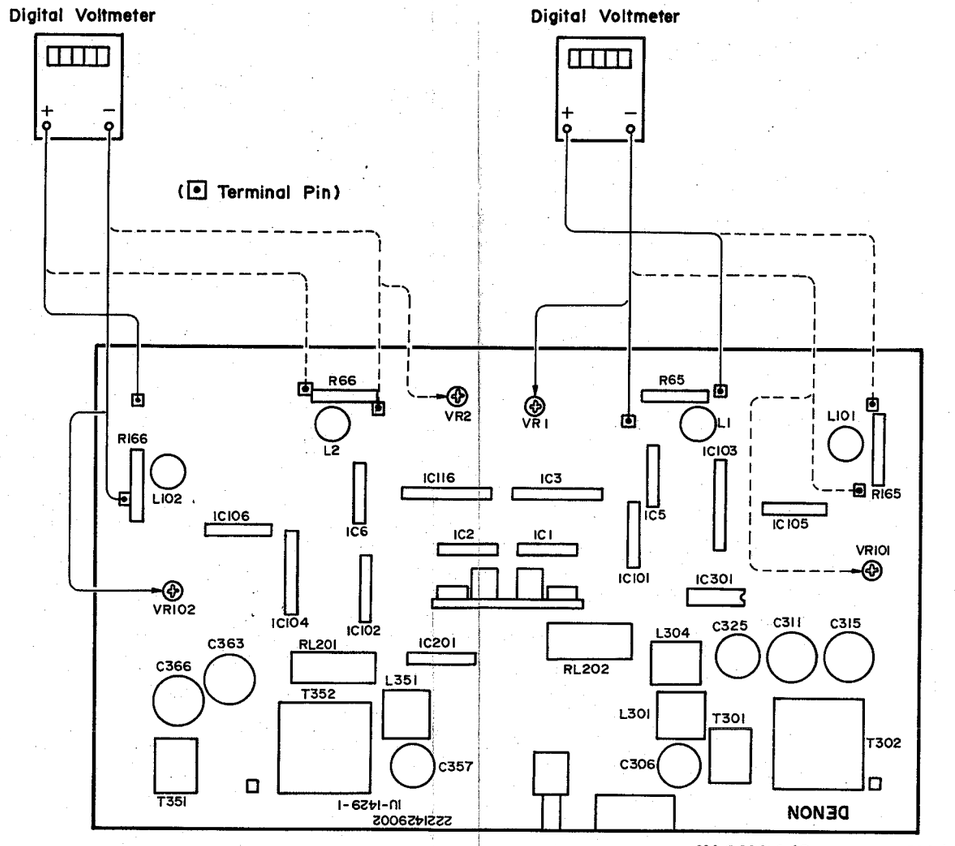


IU-1453-1 (Component Side)

• DCA-3400

Idle Current Adjustment

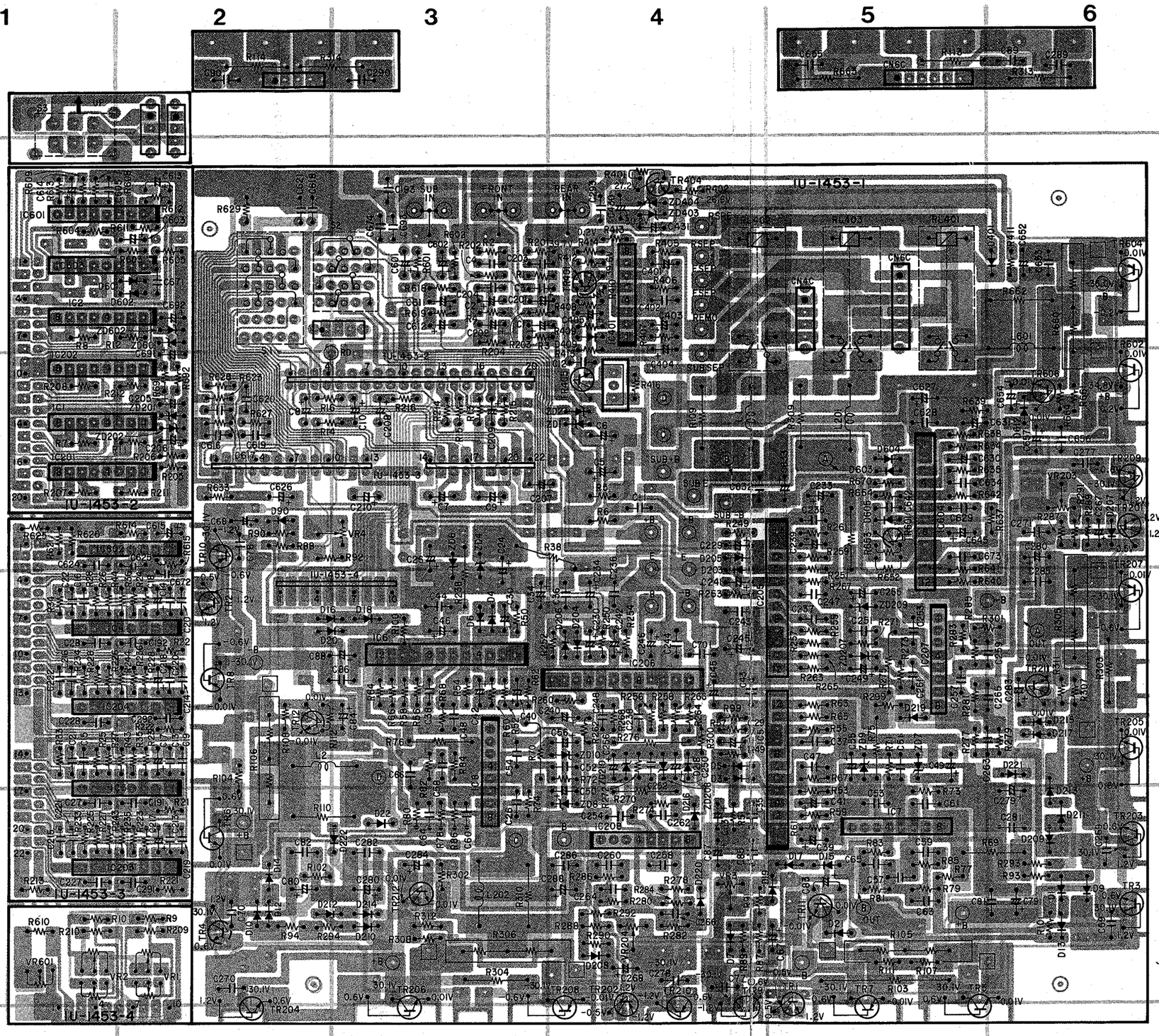
Turn on the power and warm up more than five minutes. Obtain 22 mV DC across the emitter resistor (R65, R66, R165 and R166) of last stage power transistors by means of adjusting VR1, VR2, VR101 and VR102. The idle current at this time is 50 mV DC.



IU-1429-1 (Component Side)

1U-1453 POWER AMP. UNIT (for DCA-3500)

Pattern Side



Pin	IC5	IC6	IC205	IC206
1	30.1V	30.1V	30.1V	30.1V
2	—	—	—	—
3	24.1V	24.1V	24.1V	24.1V
4	0.1V	0.1V	0.1V	0.1V
5	0.1V	0.1V	0.1V	0.1V
6	-28.3V	-28.3V	-28.3V	-28.3V
7	-0.5V	-0.5V	-0.5V	-0.5V
8	-0.1V	-0.1V	-0.1V	-0.1V
9	-30.1V	-30.1V	-30.1V	-30.1V
10	30.1V	30.1V	30.1V	30.1V
11	-0.1V	-0.1V	-0.1V	-0.1V
12	0.1V	0.1V	0.1V	0.1V

IC401

1	0.03V
2	0.02V
3	—
4	4.3V
5	—
6	0.9V
7	2.3V
8	3.4V
9	—
10	—
11	—
12	—

Pin	IC7	IC8	IC207	IC208
1	—	—	—	—
2	—	—	—	—
3	—	—	—	—
4	-5.9V	-5.9V	-5.9V	-5.9V
5	0.1V	0.1V	0.1V	0.1V
6	0.1V	0.1V	0.1V	0.1V
7	0.2V	0.2V	0.2V	0.2V
8	15.5V	15.5V	15.5V	15.5V

IC604

1	0.1V
2	0.1V
3	33.6V
4	0.1V
5	0.1V
6	0.4V
7	39.6V
8	0.2V
9	-39.8V
10	-39.8V
11	-0.1V
12	—

Pin	1	2	3	4	5	6	7	8
IC1	0V	—	—	—	—	—	0V	—
IC2	0V	—	—	—	—	—	0V	—
IC3	0V	—	—	—	—	—	0V	—
IC4	0V	—	—	—	—	—	0V	—
IC201	0V	—	—	—	—	—	0V	—
IC202	0V	—	—	—	—	—	0V	—
IC203	0V	—	—	—	—	—	0V	—
IC204	0V	—	—	—	—	—	0V	—
IC601	0V	—	—	—	—	—	0V	—
IC602	0V	—	—	—	—	—	0V	—
IC603	0V	—	—	—	—	—	0V	—

Component Side

2 3 4 5 6 7 8

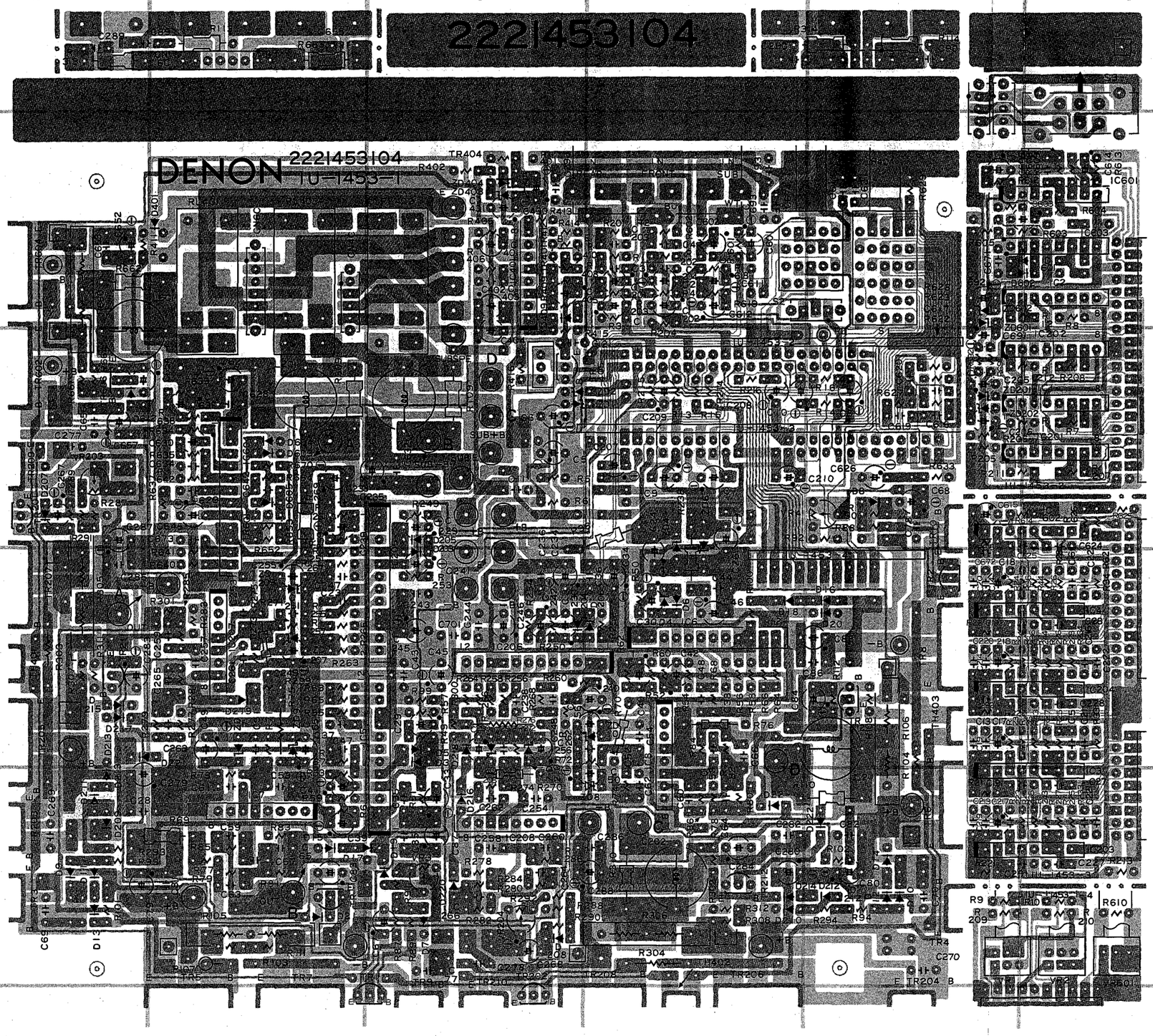
A

B

C

D

E



1U-1432 POWER SUPPLY (for DCA-3500)

Pattern Side

1 2 3 4 5 6 7 8

A

B

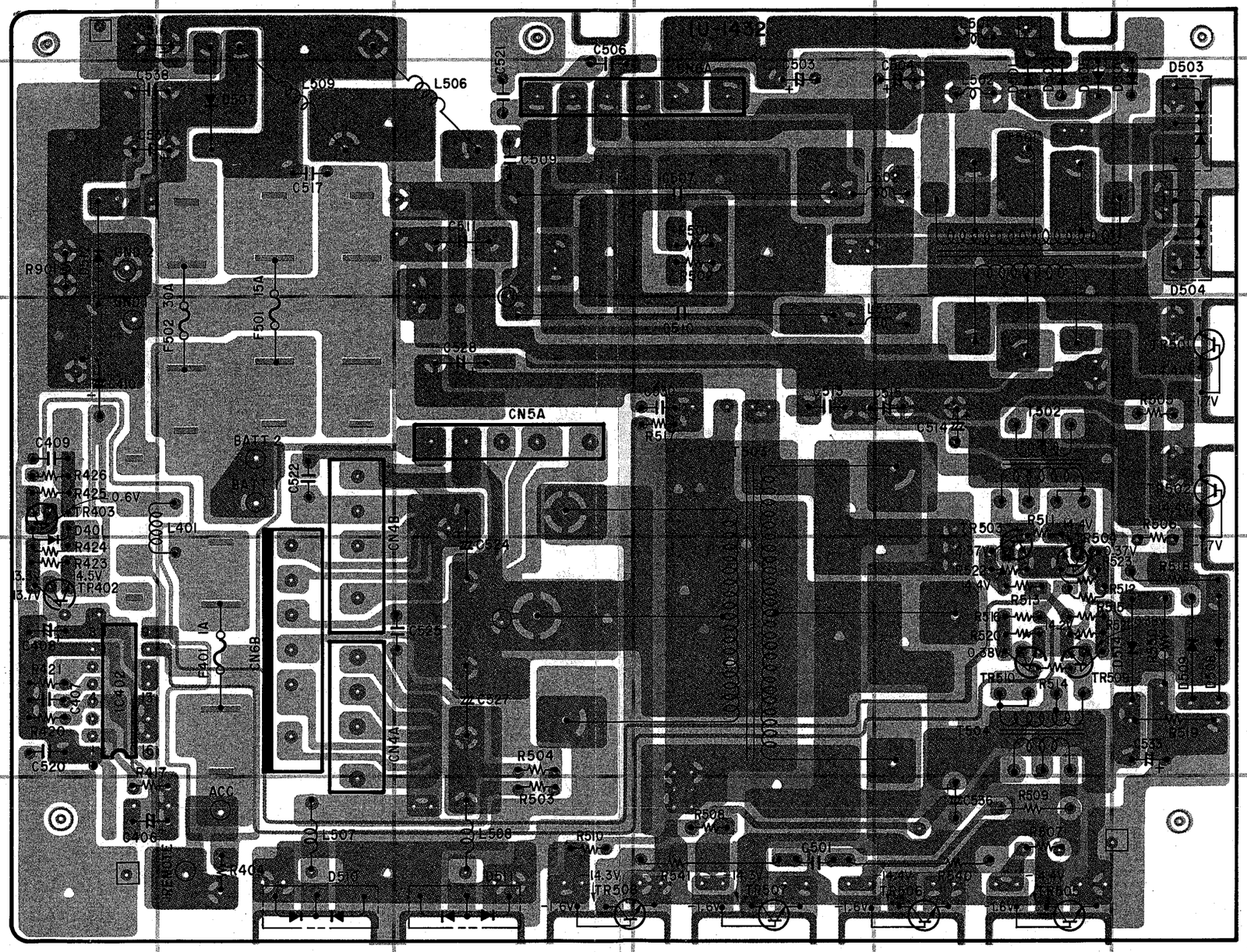
C

D

E

IC402

1	—
2	5.1V
3	—
4	0.2V
5	1.7V
6	3.8V
7	—
8	13.5V
9	5.4V
10	5.4V
11	13.5V
12	—
13	5.0V
14	—
15	—
16	—



1 2 3 4 5 6 7 8

Component Side

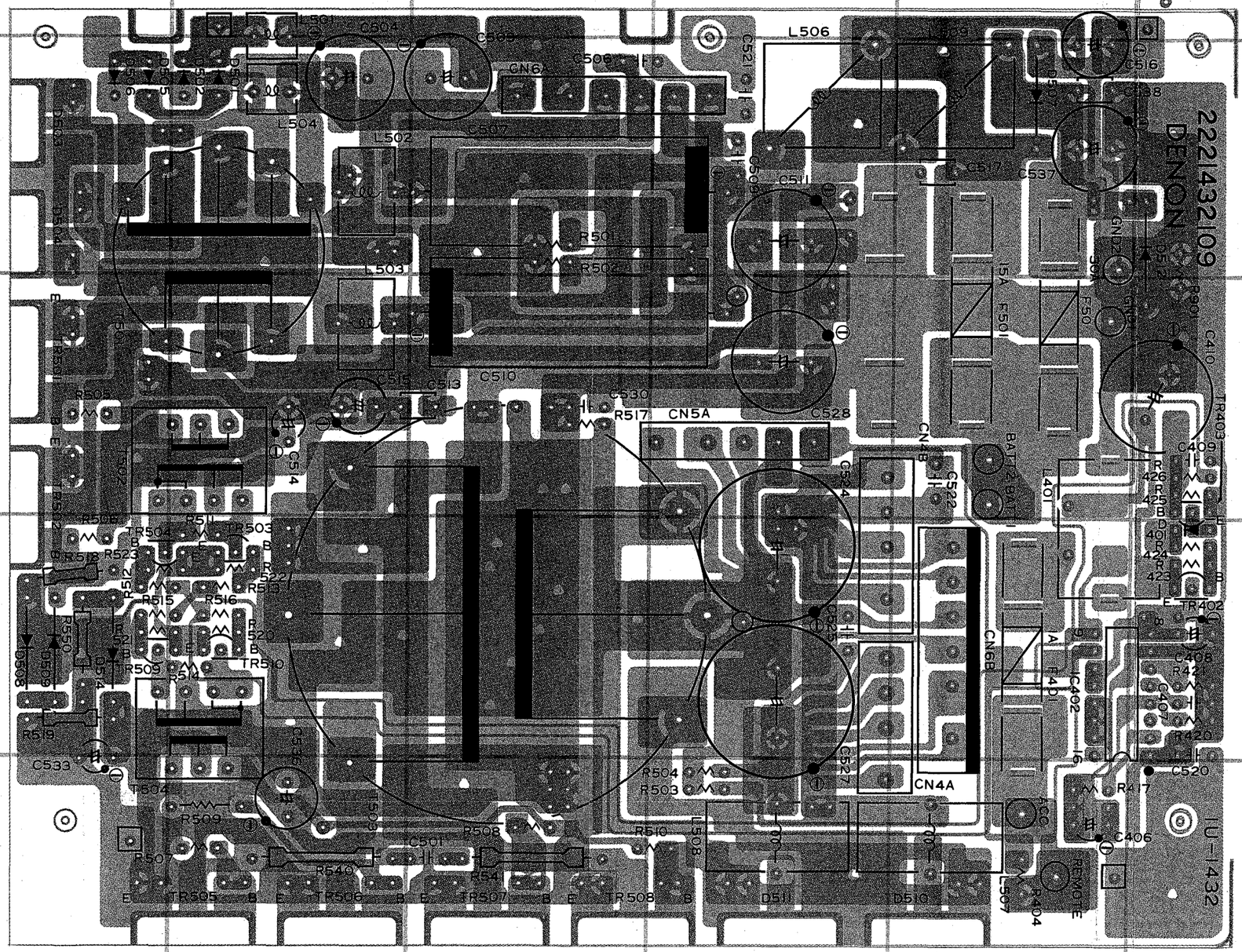
A

B

C

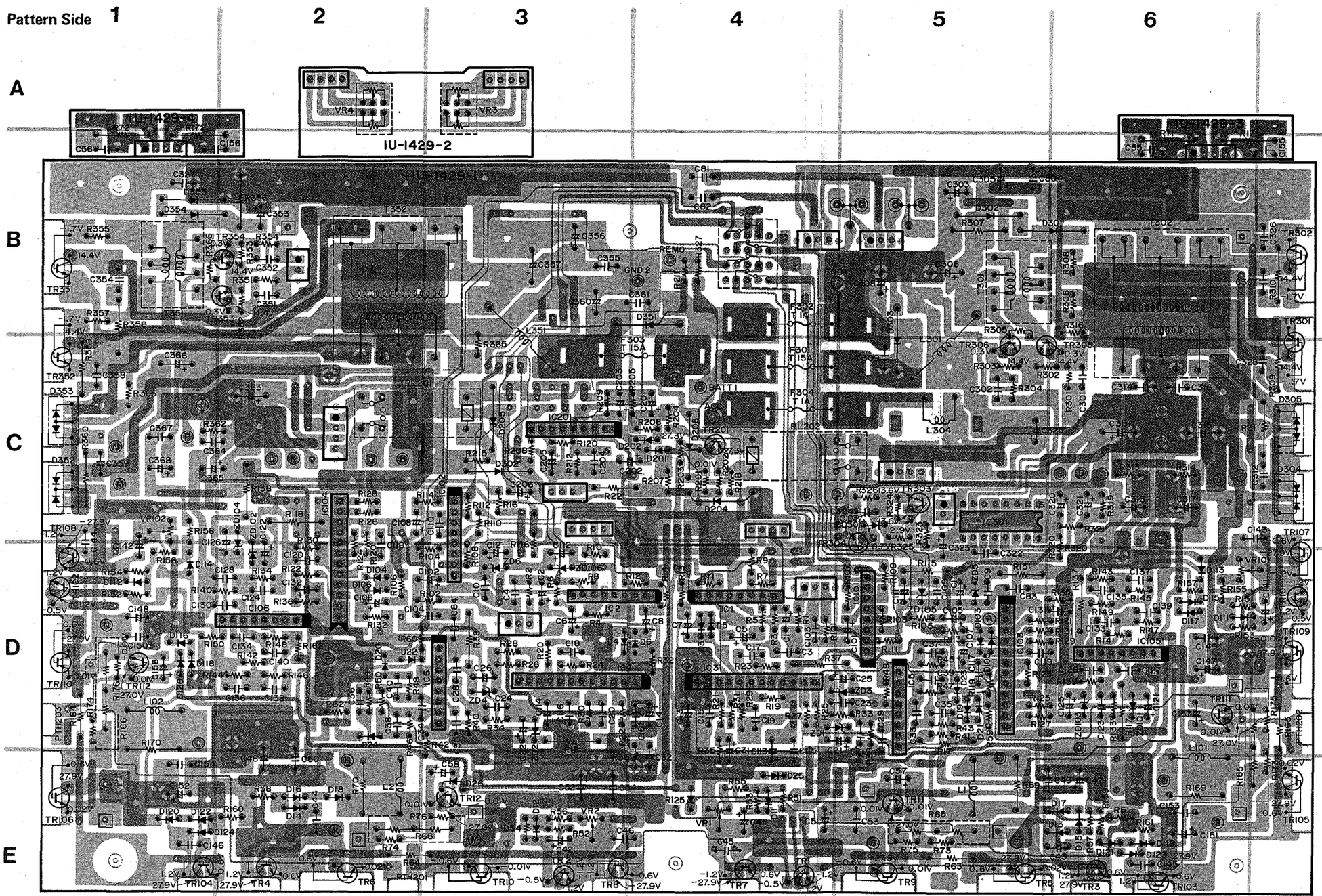
D

E



1U-1429 AMP. UNIT (for DCA-3400)

Pattern Side



Pin	IC3	IC4	IC103	IC104
1	27.9V	27.9V	27.9V	27.9V
2	27.9V	27.9V	27.9V	27.9V
3	21.8V	21.8V	21.8V	21.8V
4	0.2V	0.2V	0.2V	0.2V
5	0.2V	0.2V	0.2V	0.2V
6	−26.2V	−26.2V	−26.2V	−26.2V
7	0.5V	0.5V	0.5V	0.5V
8	0.05V	0.05V	0.05V	0.05V
9	−27.9V	−27.9V	−27.9V	−27.9V
10	−27.9V	−27.9V	−27.9V	−27.9V
11	−0.04V	−0.04V	−0.04V	−0.04V
12	0.06V	0.06V	0.06V	0.06V

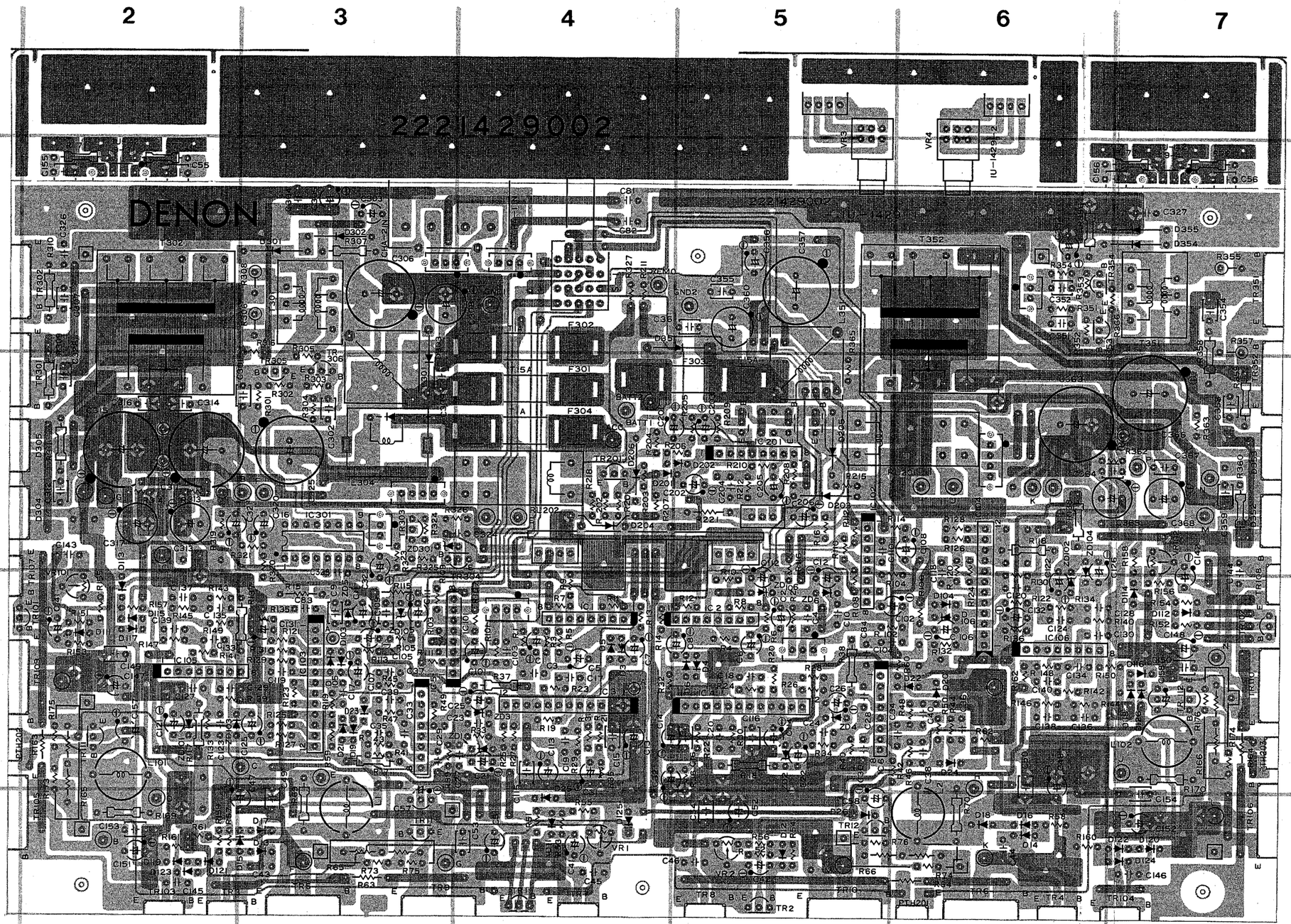
Pin	IC301
1	0V
2	5.0V
3	—
4	0.2V
5	1.7V
6	3.7V
7	—
8	13.6V
9	5.0V
10	5.0V
11	13.6V
12	—
13	—
14	5.0V
15	—
16	0V

Pin	IC1	IC2	IC101	IC102
1	0.003V	0.003V	0.003V	0.003V
2	0.007V	0.007V	0.007V	0.007V
3	0.006V	0.006V	0.006V	0.006V
4	−14.7V	−14.7V	−14.7V	−14.7V
5	0.007V	0.007V	0.007V	0.007V
6	0.007V	0.007V	0.007V	0.007V
7	0.008V	0.008V	0.008V	0.008V
8	14.7V	14.7V	14.7V	14.7V

Pin	IC201
1	0.01V
2	0.01V
3	—
4	4.3V
5	—
6	0.8V
7	2.2V
8	3.3V

Pin	IC5	IC6	IC105	IC106
1	—	—	—	—
2	—	—	—	—
3	—	—	—	—
4	−15.4V	−15.4V	−15.4V	−15.4V
5	0.01V	0.01V	0.01V	0.01V
6	0.01V	0.01V	0.01V	0.01V
7	0.04V	0.04V	0.04V	0.04V
8	15.4V	15.4V	15.4V	15.4V

Component Side



1U-1453 POWER AMP. UNIT PARTS LIST (for DCA-3500)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
IC001 ~004	2360189001	M5218L (Mitsubishi) IC
IC005,006	2630394003	μPC1270H (NEC) IC
IC007,008	2630189001	M5218L (Mitsubishi) IC
IC201 ~204	2630189001	M5218L (Mitsubishi) IC
IC205,206	2630394003	μPC1270H (NEC) IC
IC207,208	2630189001	M5218L (Mitsubishi) IC
IC401	2630209004	μPC1237H (NEC) IC
IC601 ~603	2630189001	M5218L (Mitsubishi) IC
IC604	2630394003	μPC1270H (NEC) IC
TR001, 002	2730198028	2SC1815(GR) Transistor
TR011, 012	2730198044	2SC1815(Y/GR) Transistor
TR201, 202	2730198028	2SC1815(GR) Transistor
TR211, 212	2730198044	2SC1815(Y/GR) Transistor
TR401	2710102034	2SA1015(GR/Y) Transistor
TR404	2740097009	2SD1207(T/S) Transistor
TR405	2690025008	RN1202(10K-10K) Digital Transistor
TR601	2730198015	2SC1815(BL) Transistor
TR606	2730198044	2SC1815(Y/GR) Transistor
D003~022	2760417009	1SS270 Diode
D203~222	2760417009	1SS270 Diode
D401	2760427015	DSA1A2 (Type 3) Diode
D409	2760417009	1SS270 Diode
D411	2760417009	1SS270 Diode
D601~605	2760417009	1SS270 Diode
D612	2760417009	1SS270 Diode
ZD001,002	2760476008	HZS15-1 TD Zener
ZD004	2760494006	HZP-13 Zener
ZD006	2760494006	HZP-13 Zener
ZD007 ~010	2760477007	HZS16-1 TD Zener
ZD201, 202	2760476008	HZS15-1 TD Zener
ZD207 ~210	2760477007	HZS16-1 TD Zener
ZD403, 404	2760475009	HZS12C-1 TD Zener
ZD601,602	2760476008	HZS15-1 TD Zener
RESISTORS (not including Carbon Film ±5%, 1/6W, 1/4W Type)		
⚠ R038	2442043050	470 ohm ±5% 1W Metal Oxide (S)
⚠ R069,070	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
⚠ R075,076	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
R103,104	2410167007	180 ohm ±5% 1/2W Carbon Film
R105,106	2432026032	0.22/0.22 ohm ±10% 3W Wire Wound
⚠ R109,110	2442043034	10 ohm ±5% 1W Metal Oxide (S)
⚠ R113,114	2442043034	10 ohm ±5% 1W Metal Oxide (S)
⚠ R238	2442043050	470 ohm ±5% 1W Metal Oxide (S)
⚠ R269,270	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
⚠ R275,276	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
R303,304	2410167007	180 ohm ±5% 1/2W Carbon Film
R305,306	2432026032	0.22/0.22 ohm ±10% 3W Wire Wound
⚠ R309,310	2442043034	10 ohm ±5% 1W Metal Oxide (S)
⚠ R313,314	2442043034	10 ohm ±5% 1W Metal Oxide (S)
⚠ R401	2412379026	560 ohm ±5% 1/4W Carbon Film (NBS)
⚠ R402	2412379000	470 ohm ±5% 1/4W Carbon Film (NBS)
R416	2410193000	2.2 kohm ±5% 1/2W Carbon Film
⚠ R550	2440006015	1.2 ohm ±5% 1W Metal Oxide (NBF)

Ref. No.	Part No.	Part Name & Descriptions
R660	2432026032	0.22/0.22 ohm ±10% 3W Wire Wound
⚠ R662,663	2442043034	10 ohm ±5% 1W Metal Oxide (S)
VR001	2110491002	Variable Volume 20 kohm
VR003, 004	2116048048	Semi Fixed Resistor 2.2 kohm
VR201	2110491002	Variable Volume 20 kohm
VR203, 204	2116048048	Semi Fixed Resistor 2.2 kohm
VR601	2110490003	Variable Volume 20 kohm
CAPACITORS		
C001,002	2544260061	3.3μF ±20% 50V Electrolytic
C003,004	2531055056	220pF ±10% 50V Ceramic
C005,006	2544254035	47μF ±20% 16V Electrolytic
C007~010	2544256004	10μF ±20% 25V Electrolytic
C011,012	2531024003	0.01μF +80,−20% 50V Ceramic
C013,014	2551121067	0.022μF ±5% 50V Plastic Film
C015,016	2561034018	0.033μF ±5% 50V Metalized
C017,018	2544256004	10μF ±20% 25V Electrolytic
C019,020	2551121041	0.015μF ±5% 50V Plastic Film
C021,022	2551121067	0.022μF ±5% 50V Plastic Film
C024	2544254048	100μF ±20% 16V Electrolytic
C026	2544254048	100μF ±20% 16V Electrolytic
C029,030	2544260074	4.7μF ±20% 50V Electrolytic
C033,034	2544260045	1μF ±20% 50V Electrolytic
C035,036	2561034034	0.047μF ±5% 50V Metalized
C037,038	2533614000	30pF ±5% 50V Ceramic
C039,040	2544260058	2.2μF ±20% 50V Electrolytic
C041,042	2544260074	4.7μF ±20% 50V Electrolytic
C043,044	2561034034	0.047μF ±5% 50V Metalized
C045,046	2544260045	1μF ±20% 50V Electrolytic
C047,048	—	—
C049,050	2544254051	220μF ±20% 16V Electrolytic
C051,052	2533619005	47pF ±5% 50V Ceramic
C053,054	2531055069	100pF ±10% 50V Ceramic
C055,056	2544254051	220μF ±20% 16V Electrolytic
C057,058	2533625002	82pF ±5% 50V Ceramic
C059,060	2533603008	10pF ±0.5pF 50V Ceramic
C061,062	2533623004	68pF ±5% 50V Ceramic
C063~066	2531001000	330pF ±10% 50V Ceramic
C067,068	2544254006	10μF ±20% 16V Electrolytic
C069,070	2533619005	47pF ±5% 50V Ceramic
C077,078	2533619005	47pF ±5% 50V Ceramic
C079,080	2544260045	1μF ±20% 50V Electrolytic
C081,082	2561034034	0.047μF ±5% 50V Metalized
C083,084	2544258002	4.7μF ±20% 35V Electrolytic
C085,086	2561034034	0.047μF ±5% 50V Metalized
C087,088	2544260045	1μF ±20% 50V Electrolytic
C089,090	2561034018	0.033μF ±5% 50V Metalized
C193	2531024003	0.01μF +80,−20% 50V Ceramic
C201,202	2544260061	3.3μF ±20% 50V Electrolytic
C203,204	2531055056	220pF ±10% 50V Ceramic
C205,206	2544254035	47μF ±20% 16V Electrolytic
C207~210	2544256004	10μF ±20% 25V Electrolytic
C213,214	2551121067	0.022μF ±5% 50V Plastic Film
C215,216	2561034018	0.033μF ±5% 50V Metalized
C217,218	2544256004	10μF ±20% 25V Electrolytic
C219,220	2551121041	0.015μF ±5% 50V Plastic Film
C221,222	2551121067	0.022μF ±5% 50V Plastic Film
C229,230	2544260074	4.7μF ±20% 50V Electrolytic
C233,234	2544260045	1μF ±20% 50V Electrolytic
C235,236	2561034034	0.047μF ±5% 50V Metalized
C237,238	2533614000	30pF ±5% 50V Ceramic
C239,240	2544260058	2.2μF ±20% 50V Electrolytic

Ref. No.	Part No.	Part Name & Descriptions
C241,242	2544260074	4.7μF ±20% 50V Electrolytic
C243,244	2561034034	0.047μF ±5% 50V Metalized
C245,246	2544260045	1μF ±20% 50V Electrolytic
C247,248	—	—
C249,250	2544254051	220μF ±20% 16V Electrolytic
C251,252	2533619005	47pF ±5% 50V Ceramic
C253,254	2531055069	100pF ±10% 50V Ceramic
C255,256	2544254051	220μF ±20% 16V Electrolytic
C257,258	2533625002	82pF ±5% 50V Ceramic
C259,260	2533603008	10pF ±0.5pF 50V Ceramic
C261,262	2533623004	68pF ±5% 50V Ceramic
C263~266	2531001000	330pF ±10% 50V Ceramic
C267,268	2544254006	10μF ±20% 16V Electrolytic
C269,270	2533619005	47pF ±5% 50V Ceramic
C277,278	2533619005	47pF ±5% 50V Ceramic
C279,280	2544260045	1μF ±20% 50V Electrolytic
C281,282	2561034034	0.047μF ±5% 50V Metalized
C283,284	2544258002	4.7μF ±20% 35V Electrolytic
C285,286	2561034034	0.047μF ±5% 50V Metalized
C287,288	2544260045	1μF ±20% 50V Electrolytic
C289,290	2561034018	0.033μF ±5% 50V Metalized
C401	2544254006	10μF ±20% 16V Electrolytic
C402	2551121025	0.01μF ±5% 50V Plastic Film
C403	2544252037	100μF ±20% 10V Electrolytic
C404	2544250026	100μF ±20% 6.3V Electrolytic
C405	2544260045	1μF ±20% 50V Electrolytic
C430	2544260074	4.7μF ±20% 50V Electrolytic
C431	2544258015	10μF ±20% 35V Electrolytic
C601,602	2544258002	4.7μF ±20% 35V Electrolytic
C603	2544256020	33μF ±20% 25V Electrolytic
C604	—	—
C605	2531055056	220pF ±10% 50V Ceramic
C606~608	—	—
C609	—	—
C612	2544256004	10μF ±20% 25V Electrolytic
C613~615	2544256004	10μF ±20% 25V Electrolytic
C616	2561035004	0.18μF ±5% 50V Metalized
C617	2561035033	0.33μF ±5% 50V Metalized
C618	2539035010	0.018μF ±10% 25V Ceramic
C619	2561034089	0.12μF ±5% 50V Metalized
C620	2561035017	0.22μF ±5% 50V Metalized
C621	2539035007	0.012μF ±10% 25V Ceramic
C622,623	—	—
C626	2544260074	4.7μF ±20% 50V Electrolytic
C627	—	—
C628	2561035059	0.47μF ±5% 50V Metalized
C629	2533614000	30pF ±5% 50V Ceramic
C630	2544260074	4.7μF ±20% 50V Electrolytic
C631	2544260058	2.2μF ±20% 50V Electrolytic
C632	2561034034	0.047μF ±5% 50V Metalized
C633	2544260045	1μF ±20% 50V Electrolytic
C634	2534342041	5pF ±0.25pF 50V Ceramic
C642	—	—
C645	—	—
C652	2544260090	22μF ±20% 50V Electrolytic
C653	2561035091	1μF ±5% 50V Metalized
C654	2544258002	4.7μF ±20% 35V Electrolytic
C655,656	2561034018	0.033μF ±5% 50V Metalized
C656	2561035091	1μF ±5% 50V Metalized
C657	2544261015	47μF ±20% 50V Electrolytic
C671	2533600001	7pF ±0.5pF 50V Ceramic
C691,692	2544254035	47μF ±20% 16V Electrolytic
C402	2544252037	100μF ±20% 10V Electrolytic

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
COIL, TRANS			
L001,002	2350007007	Inductor	
L201,202	2350007007	Inductor	
L601	2350007007	Inductor	
RL401 ~403	2149003005	Relay	
E.U.P.			
SW001	2124642009	Rotary Switch	1
SW002	2124641000	Rotary Switch	1
SW601	2124091003	Slide Switch	1
	2050390001	6P. Pin Jack (T5916)	1
	2050391107	4P Speaker Terminal	1
	2050389106	6P Speaker Terminal	1
OTHER PARTS			
	2221453104	(P.W. Board)	1
	EP-5667H1	Terminal Pin	11
	2050185067	6P Wire Holder	1
	2050185041	4P Wire Holder	1
	2050233032	3PEH Connector Base	1
	2050234060	6P Connector Base	1
	2050234044	4P EH SID Connector Base	1
	2050402009	10P Con. Base L Type	1
	2050401000	18P Con. Base WL Type	1
	2050401013	26P Con. Base WL Type	1
	2050401026	40P Con. Base WL Type	1
	2040190004	6P UL TR Con. Cord	1
	2046198007	4P UL TR Con. Cord	1
	2040191003	6P V Con. Cord	1
	2038187003	5P V Con. Cord	1
	2036199006	4P V Con. Cord	1
	2040192002	6P EH Con. Cord	1
	2036193015	4P EH Con. Coed	1
	2030299070	1P SIN Con. Cord	1
	2030299054	1P SIN Con. Coed	1
	2030299083	1P SIN Con. Cord	1
	2030299096	1P SIN Con. Cord	1

1U-1432 POWER SUPPLY UNIT PARTS LIST (for DCA-3500)

Ref. No.	Part No.	Part Name & Descriptions	
SEMICONDUCTORS			
IC402	2620720001	IR3M02 (Sharp)	IC
TR402	2720078006	2SB764(E/F)	Transistor
TR403	2730198002	2SC1815(Y)	Transistor
TR503, 504	2730327019	2SC2274K(E/F)AA	Transistor
TR509, 510	2730327019	2SC2274K(E/F)AA	Transistor
D501,502	2760442003	1SR124-200AT93	Diode
D505,506	2760442003	1SR124-200AT93	Diode
D507	2760398018	S3V10F(04P15)	Diode
D508,509	2760055005	V03C	Diode
D512	2760398018	S3V10F(04P15)	Diode
D514	2760113002	U05C	Diode
ZD401	2760464007	HZS7A-1 TD	Zener
RESISTORS (not including Carbon Film ±5%, 1/6W, 1/4W Type)			
⚠ R505~510	2412369010	1 ohm ±5% 1/4W	Carbon Film (NBF)
⚠ R518,519	2442043034	10 ohm ±5% 1W	Metal Oxide (S)
⚠ R550	2440006015	1.2 ohm ±5% 1W	Metal Oxide (NBF)
CAPACITORS			
C406	2544254048	100μF ±20% 16V	Electrolytic
C407	2551120000	0.001μF ±5% 50V	Plastic Film
C408	2544254048	100μF ±20% 16V	Electrolytic
C409	2551121025	0.01μF ±5% 50V	Plastic Film
C410	2544255005	3300μF ±20% 16V	Electrolytic
C501	2561034018	0.033μF ±5% 50V	Metalized
C503,504	2544220027	470μF 50V	Electrolytic
C506	2561034034	0.047μF ±5% 50V	Metalized
C507	2542083004	2200μF ±20% 50V	Electrolytic
C509	2561034034	0.047μF ±5% 50V	Metalized
C510	2542083004	2200μF ±20% 50V	Electrolytic
C511	2544255018	4700μF ±20% 16V	Electrolytic
C513	2551121025	0.01μF ±5% 50V	Plastic Film
C514	2544279007	100μF ±20% 10V	Electrolytic
C515	2544274002	220μF ±20% 16V	Electrolytic
C516	2544254080	1000μF ±20% 16V	Electrolytic
C517	2561034018	0.033μF ±5% 50V	Metalized
C520,521	2531024003	0.01μF +80,−20% 50V	Ceramic
C522	2561034034	0.047μF ±5% 50V	Metalized
C524	2544259027	4700μF ±20% 35V	Electrolytic
C525	2561034034	0.047μF ±5% 50V	Metalized
C527	2544259027	4700μF ±20% 35V	Electrolytic
C528	2544255018	4700μF ±20% 16V	Electrolytic
C530	2561034034	0.047μF ±5% 50V	Metalized
C533	2544279010	220μF 10V	Electrolytic
C536	2544274031	470μF 16V	Electrolytic
C537	2544254093	2200μF ±20% 16V	Electrolytic
C538	2561034034	0.047μF ±5% 50V	Metalized
COIL, TRANS			
L401	2350037006	Inductor	
L501	2350028002	Coil (270μH)	
L502,503	2350039004	Inductor	
L504	2350028002	Coil (270μH)	
L506	2320093106	Choke Coil	
L507,508	2350040006	Inductor	
L509	2320093106	Choke Coil	
T501	2330291008	Pulse Trans	
T502	2330273000	Driver Trans	
T503	2330293006	Pulse Trans	
T504	2330273000	Driver Trans	

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
E.U.P.			
F401	2061025035	Fuse 1A (LC)	1
F501	2061017030	Fuse 15A	1
F502	2061017056	Fuse (30.0A)	1
	EP-5870	Fuse Holder	6
OTHER PARTS			
	221432109	(P.W. Board)	1
	EP-5667H1	Terminal Pin	4
	2050122062	6P Connector Pin Ass'y	1
	2050122059	5P Connector Pin Ass'y	1
	2050122046	4P Connector Pin Ass'y	1
	2050217061	6P Connector Base (ULTR)	1
	2050217045	4P Connector Base (ULTR)	1
	2030305074	1P Sin Connector Ass'y	1
	2030289080	1P Contact Ass'y	1
	2030300024	1P Sin Connector Ass'y	1
	2030300037	1P Sin Connector Ass'y	1
	2030305045	1P Sin Connector Ass'y	1
	2030305058	1P Sin Connector Ass'y	1
	2030305061	1P Sin Connector Ass'y	1

1U-1429 AMP. UNIT PARTS LIST (for DCA-3400)

Ref. No.	Part No.	Part Name & Descriptions
	SEMICONDUCTORS	
IC001,002	2630189001	M5218L (Mitsubishi) IC
IC003,004	2630394003	μPC1270H (NEC) IC
IC005,006	2630189001	M5218L (Mitsubishi) IC
IC101,102	2630189001	M5218L (Mitsubishi) IC
IC103,104	2630394003	μPC1270H (NEC) IC
IC105,106	2630189001	M5218L (Mitsubishi) IC
IC201	2630209004	μPC1237H (NEC) IC
IC301	2620832009	μPC494C (NEC) IC
TR001, 002	2730198028	2SC1815(GR) Transistor
TR011, 012	2730198044	2SC1815(Y/GR) Transistor
TR101, 102	2730198028	2SC1815(GR) Transistor
TR111, 112	2730198044	2SC1815(Y/GR) Transistor
TR201	2710102034	2SA1015(GR/Y) Transistor
TR202	—	—
TR203, 204	—	—
TR303	2720067004	2SB647(D) Transistor
TR304	2730198002	2SC1815(Y) Transistor
TR305, 306	2730327019	2SC2274K(E/F) Transistor
TR353, 354	2730327019	2SC2274K(E/F) Transistor
D003~006	2760417009	1SS270 Diode
D011~026	2760417009	1SS270 Diode
D103~106	2760417009	1SS270 Diode
D111~126	2760417009	1SS270 Diode
D201,202	2760417009	1SS270 Diode
D203~206	2760433009	DSM1A2 Diode
D301	2760055005	V03C Diode
D303	2760398018	S3V10F(04P15) Diode
D306	—	—
D351	2760398018	S3V10F(04P15) Diode
D354	2760055005	V03C Diode
ZD001 ~004	2760477007	HZS16-1 Zener
ZD005, 006	2760476008	HZS15-1 Zener
ZD101 ~104	2760477007	HZS16-1 Zener
ZD105, 106	2760476008	HZS15-1 Zener
ZD301	2760464007	HZS7A-1 Zener
	RESISTORS (not including Carbon Film ±5%, 1/6W, 1/4W Type)	
R015,016	2410185005	1 kohm ±5% 1/2W Carbon Film
⚠ R017,018	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
⚠ R037,038	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
R063,064	2410167007	180 ohm ±5% 1/2W Carbon Film
R065,066	2432026032	0.22/0.22 ohm ±10% 3W Wire Wound
⚠ R069~072	2442043034	10 ohm ±5% 1W Metal Oxide (S)
R115,116	2410185005	1 kohm ±5% 1/2W Carbon Film
⚠ R117,118	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
⚠ R137,138	2442043047	2.2 kohm ±5% 1W Metal Oxide (S)
R163,164	2410167007	180 ohm ±5% 1/2W Carbon Film
R165,166	2432026032	0.22/0.22 ohm ±10% 3W Wire Wound
⚠ R169~172	2442043034	10 ohm ±5% 1W Metal Oxide (S)
R221	2410193000	2.2 kohm ±5% 1/2W Carbon Film
⚠ R306	2412387005	1 ohm ±5% 1/4W Carbon Film (NBS)
⚠ R307	2442043034	10 ohm ±5% 1W Metal Oxide (S)
⚠ R308	2412387005	1 ohm ±5% 1/4W Carbon Film (NBS)
⚠ R355	2412387005	1 ohm ±5% 1/4W Carbon Film (NBS)
⚠ R356	2442043034	10 ohm ±5% 1W Metal Oxide (S)

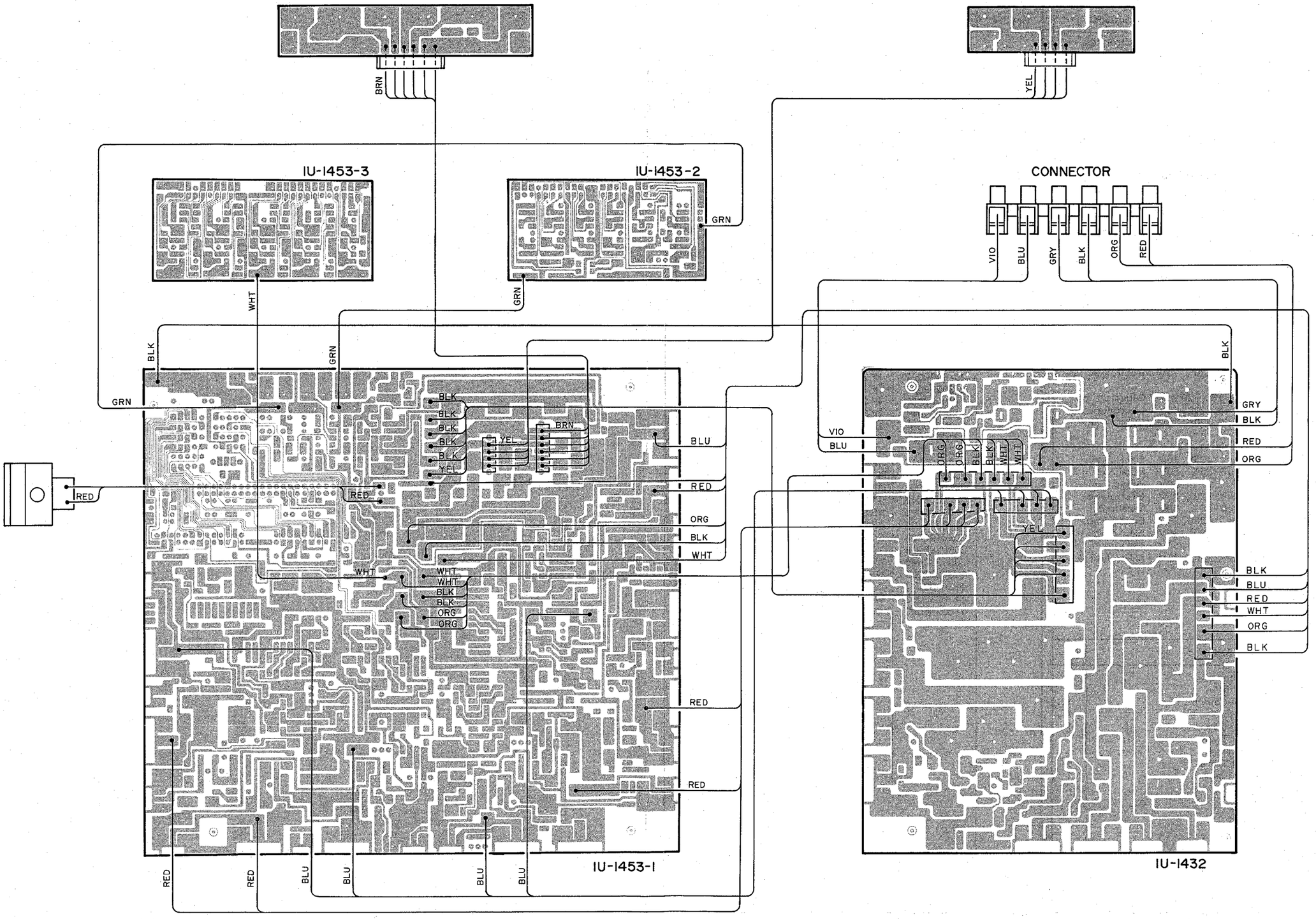
Ref. No.	Part No.	Part Name & Descriptions
⚠ R357	2412387005	1 ohm ±5% 1/4W Carbon Film (NBS)
⚠ R367 368	2440010027	2.7 ohm ±5% 1W Metal Oxide (NBF)
VR001, 002	2116048048	Semi Fixed Resistor 2.2 kohm
VR003, 004	2110491002	Variable Volume 20 kohm
VR101, 102	2116048048	Semi Fixed Resistor 2.2 kohm
	CAPACITORS	
C001,002	2544260061	3.3μF ±20% 50V Electrolytic
C003,004	2531055056	220pF ±10% 50V Ceramic
C005~008	2544260061	3.3μF ±20% 50V Electrolytic
C009,010	2531024003	0.01μF +80,−20% 50V Ceramic
C011,012	2544254048	100μF ±20% 16V Electrolytic
C013,014	2544260045	1μF ±20% 50V Electrolytic
C015,016	2561034034	0.047μF ±5% 50V Metalized
C017,018	2533614000	30pF ±5% 50V Ceramic
C019,020	2534342041	5pF ±0.25pF 50V Ceramic
C021,022	2544254051	220μF ±20% 16V Electrolytic
C023,024	2533619005	47pF ±5% 50V Ceramic
C025,026	2544254051	220μF ±20% 16V Electrolytic
C027,028	2531055069	100pF ±10% 50V Ceramic
C029,030	2533623004	68pF ±5% 50V Cermic
C031,032	2544260058	2.2μF ±20% 50V Electrolytic
C033,034	2533625002	82pF ±5% 50V Ceramic
C035~038	2531001000	330pF ±10% 50V Ceramic
C039,040	2533603008	10pF ±0.5pF 50V Ceramic
C041,042	2544254006	10μF ±20% 16V Electrolytic
C043~046	2533619005	47pF ±5% 50V Ceramic
C047,048	2544260045	1μF ±20% 50V Electrolytic
C049,050	2561034034	0.047μF ±5% 50V Metalized
C051,052	2544260045	1μF ±20% 50V Electrolytic
C053,054	2561034034	0.047μF ±5% 50V Metalized
C055,056	2561034018	0.033μF ±5% 50V Metalized
C057,058	2544258002	4.7μF ±20% 35V Electrolytic
C081~084	2531024003	0.01μF +80,−20% 50V Ceramic
C101,102	2544260061	3.3μF ±20% 50V Electrolytic
C103,104	2531055056	220pF ±10% 50V Ceramic
C105~108	2544260061	3.3μF ±20% 50V Electrolytic
C109,110	2531024003	0.01μF +80,−20% 50V Ceramic
C111,112	2544254048	100μF ±20% 16V Electrolytic
C113,114	2544260045	1μF ±20% 50V Electrolytic
C115,116	2561034034	0.047μF ±5% 50V Metalized
C117,118	2533614000	30pF ±5% 50V Ceramic
C119,120	2534342041	5pF ±0.25pF 50V Ceramic
C121,122	2544254051	220μF ±20% 16V Electrolytic
C123,124	2533619005	47pF ±5% 50V Ceramic
C125,126	2544254051	220μF ±20% 16V Electrolytic
C127,128	2531055069	100pF ±10% 50V Ceramic
C129,130	2533623004	68pF ±5% 50V Ceramic
C131,132	2544260058	2.2μF ±20% 50V Electrolytic
C133,134	2533625002	82pF ±5% 50V Ceramic
C135~138	2531001000	330pF ±10% 50V Ceramic
C139,140	2533603008	10pF ±0.5pF 50V Ceramic
C141,142	2544254006	10μF ±20% 16V Electrolytic
C143~146	2533619005	47pF ±5% 50V Ceramic
C147,148	2544260045	1μF ±20% 50V Electrolytic
C149,150	2561034034	0.047μF ±5% 50V Metalized
C151,152	2544260045	1μF ±20% 50V Electrolytic
C153,154	2561034034	0.047μF ±5% 50V Metalized
C155,156	2561034018	0.033μF ±5% 50V Metalized
C157,158	2544258002	4.7μF ±20% 35V Electrolytic
C201	2544260045	1μF ±20% 50V Electrolytic
C202	2544252037	100μF ±20% 10V Electrolytic
C203	2544252037	100μF ±20% 10V Electrolytic
C204	2531024003	0.01μF +80,−20% 50V Ceramic
C205	2544254006	10μF ±20% 16V Electrolytic

Ref. No.	Part No.	Part Name & Descriptions
C206	2544258057	100μF ±20% 35V Electrolytic
C301,302	2561034034	0.047μF ±5% 50V Metalized
C303	2544252037	100μF ±20% 10V Electrolytic
C304	2531024003	0.01μF +80,—20% 50V Ceramic
C305	2544260045	1μF ±20% 50V Electrolytic
C306	2544255018	4700μF ±20% 16V Electrolytic
C307	—	—
C308	2544254080	1000μF ±20% 16V Electrolytic
C309	2561034018	0.033μF ±5% 50V Metalized
C310	—	—
C311	2544259014	3300μF ±20% 35V Electrolytic
C312	—	—
C313	2544258060	220μF ±20% 35V Electrolytic
C314	2561034034	0.047μF ±5% 50V Metalized
C315	2544259014	3300μF ±20% 35V Electrolytic
C316	2561034034	0.047μF ±5% 50V Metalized
C317	2544258060	220μF ±20% 35V Electrolytic
C318	—	—
C320	2544254048	100μF ±20% 16V Electrolttic
C321	2544254051	220μF ±20% 16V Electrolytic
C322	2551120000	0.001μF ±5% 50V Plastic Film
C323	2544254048	100μF ±20% 16V Electrolytic
C324	2531024003	0.01μF +80,—20% 50V Ceramic
C325	2544255005	3300μF ±20% 16V Electrolytic
C326,327	2561034034	0.047μF ±5% 50V Metalized
C328	—	—
C351,352	2561034034	0.047μF ±5% 50V Metalized
C353	2544252037	100μF ±20% 10V Electrolytic
C354	—	—
C355	2531024003	0.01μF +80,—20% 50V Ceramic
C356	2544260045	1μF ±20% 50V Electrolytic
C357	2544255018	4700μF ±20% 16V Electrolytic
C358	—	—
C359	—	—
C360	2544254080	1000μF ±20% 16V Electrolytic
C361	2561034018	0.033μF ±5% 50V Metalized
C362	—	— 50V Plastic Film
C363	2544259014	3300μF ±20% 35V Electrolytic
C364	2561034034	0.047μF ±5% 50V Metalized
C365	2544258060	220μF ±20% 35V Electrolytic
C366	2544259014	3300μF ±20% 35V Electrolytic
C367	2561034034	0.047μF ±5% 50V Metalized
C368	2544258060	220μF ±20% 35V Electrolytic

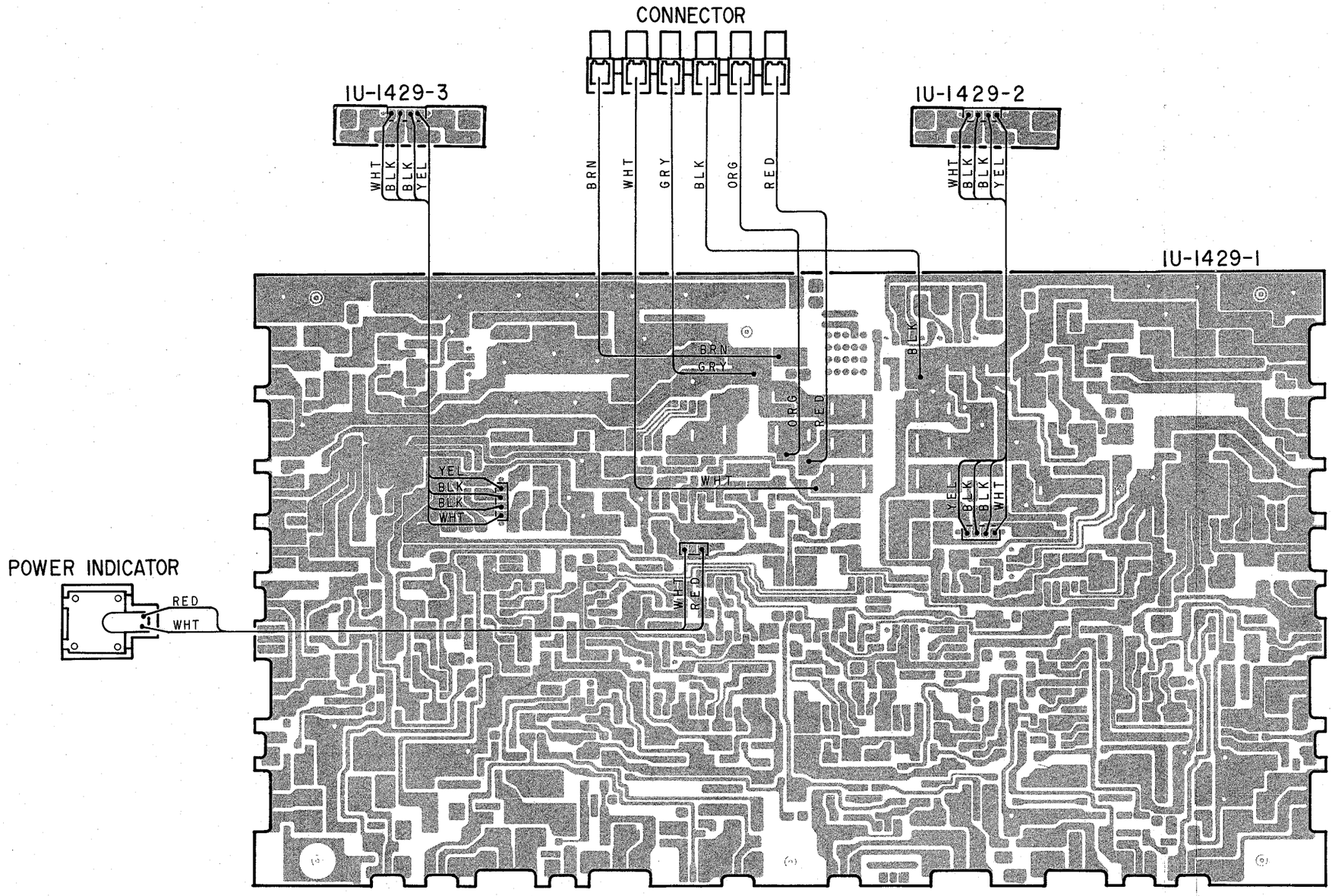
COIL, TRANS			Q'ty
L001,002	2350007007	Inductor	2
L101,102	2350007000	Inductor	2
L301	2320093106	Choke Coil	1
L304	2350037006	Inductor	1
L305	2320093106	Choke Coil	1
T301	2330273000	Driver Trans	1
T302	2330272108	Pulse Trans	1
T351	2330273000	Driver Trans	1
T352	2330272108	Pulse Trans	1
RL201, 202	2149003005	Relay	2

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
E.U.P.			
SW001	2124641000	Rotary Switch	1
	2050391107	4P Speaker Terminal	2
	2048229003	4P. Pin Jack	1
	EP-5870	Fuse Holder	8
F301	2061017030	Fuse 15A	1
F302	2061025035	Fuse 1A (LC)	1
F303	2061017030	Fuse 15A	1
F304	2061025035	Fuse 1A (LC)	1
OTHER PARTS			
	2221429109	P.W. Board	1
	2090008146	Jumper Wire P=5mm	1
	EP-5667H1	Terminal Pin	4
	2050154043	4P NH Connector Base	2
	2050190036	3P NH Connector Base	1
	2050185038	3P Wire Holder	4
	2050185041	4P Wire Holder	2
	2030289077	1P Contact Ass'y ℓ=40 Black	1
	2030299009	1P SIN. Con. Ass'y ℓ=70 Blue	1
	2030299012	1P SIN. Con. Ass'y ℓ=180 Blue	2
	2030299025	1P SIN. Con. Ass'y ℓ=140 Red	4
	2030299038	1P SIN. Con. Ass'y ℓ=100 Black	1
	2030299041	1P SIN. Con. Ass'y ℓ=120 Yellow	2
	2030299054	1P SIN. Con. Ass'y ℓ=140 White	2
	2030299067	1P SIN. Con. Ass'y ℓ=170 Black	1
	2030300008	1P SIN. Con. Ass'y ℓ=180 White	1
	2030300011	1P SIN. Con. Ass'y ℓ=160 Brown	1
	2036193002	4P EH Con. Cord ℓ=170	2
	2030305003	1P SIN. Con. Ass'y ℓ=220 Red	1
	2030305016	1P SIN. Con. Ass'y ℓ=220 Black	1
	2030305029	1P SIN. Con. Ass'y ℓ=210 Orange	1
	2030305032	1P SIN. Con. Ass'y ℓ=170 Gray	1
	2090196003	2C Shield Wire ℓ=150 Gray	1
	2090196016	2C Shield Wire ℓ=200 Gray	1
	2050233045	4P EH Connector Base	2
	4150395001	UL Tube(4.7) Black ℓ=20	2
	4150309042	P.V.C. Tube ℓ=5	4
	4450033005	Wire Clamp Band	1
	4150396000	Glass Tube	4

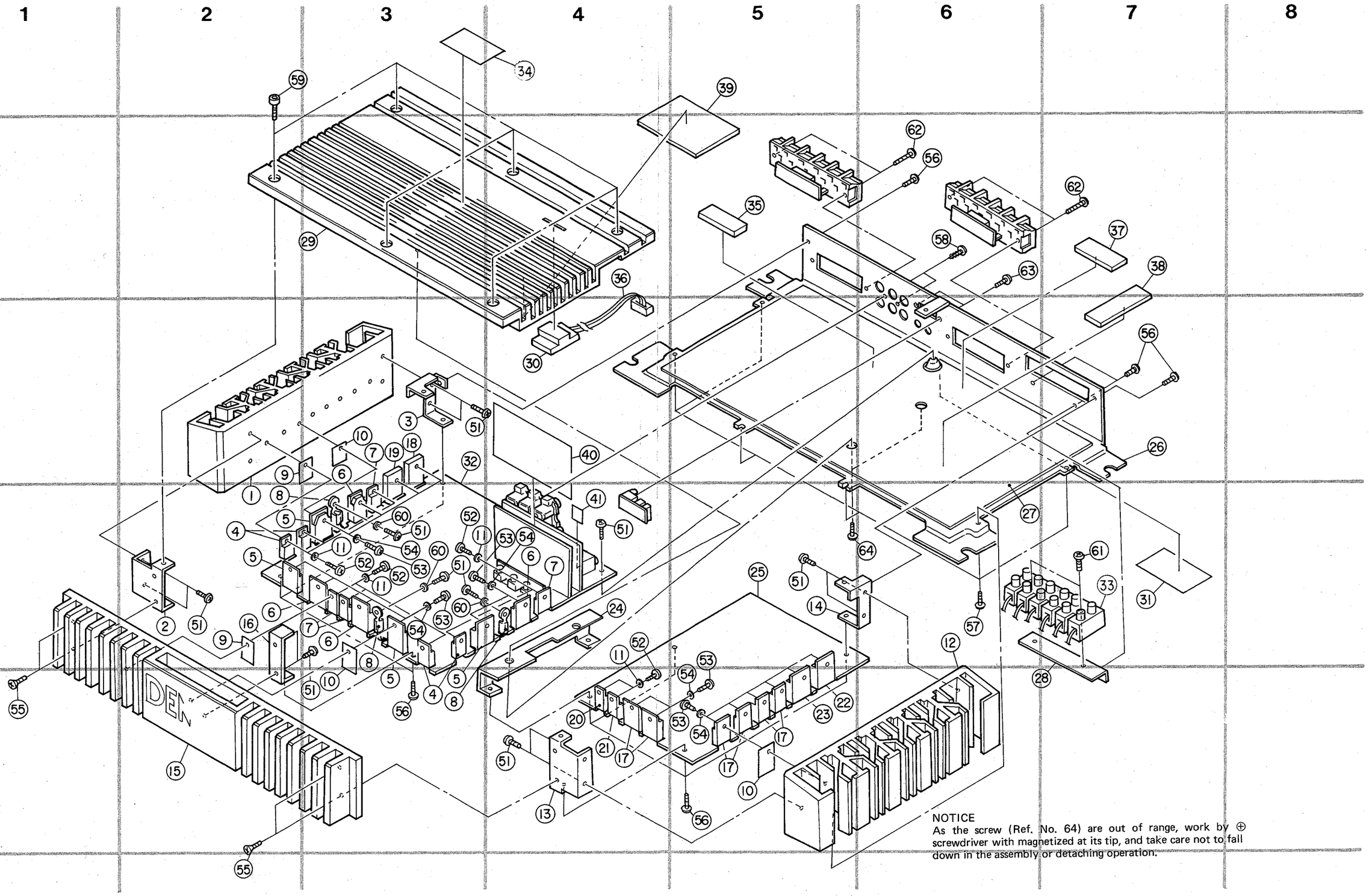
WIRING DIAGRAM (for DCA-3500)



WIRING DIAGRAM (for DCA-3400)

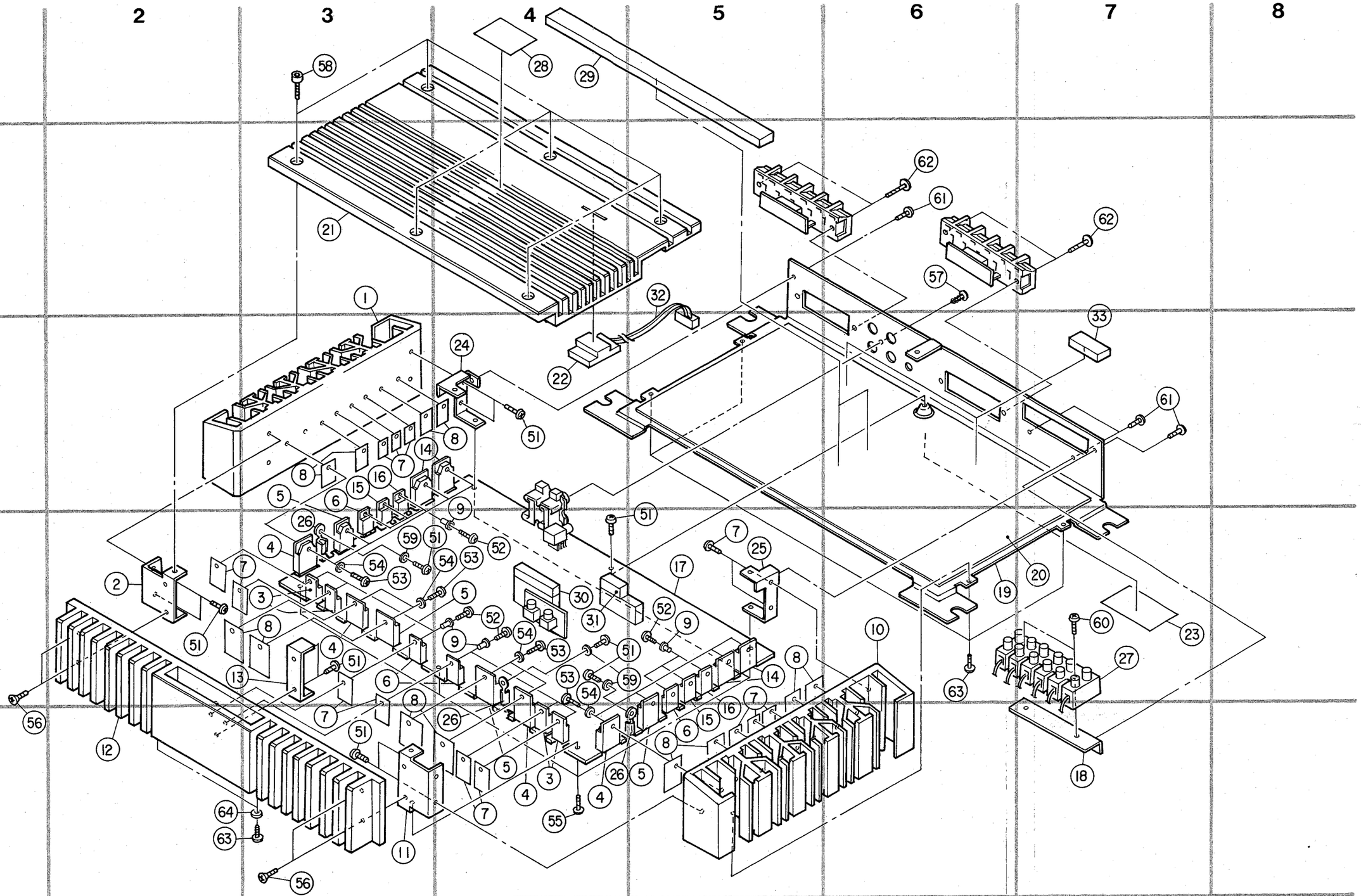


EXPLODED VIEW (for DCA-3500)



NOTICE
As the screw (Ref. No. 64) are out of range, work by ⊕ screwdriver with magnetized at its tip, and take care not to fall down in the assembly or detaching operation.

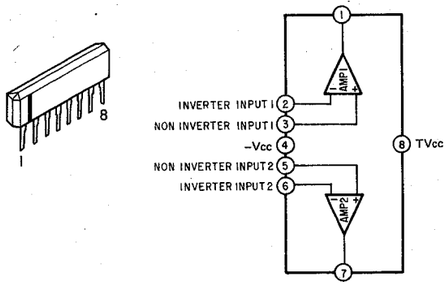
EXPLODED VIEW (for DCA-3400)



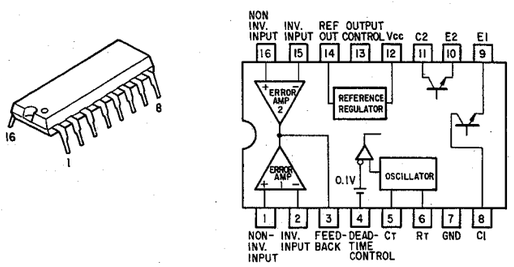
SEMICONDUCTORS

• IC's

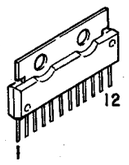
M5218L
(Mitsubishi)



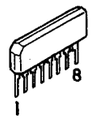
μPC494C
(NEC)

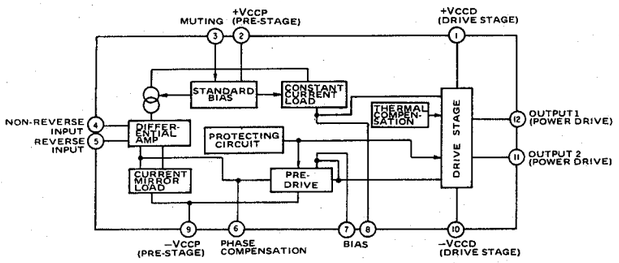


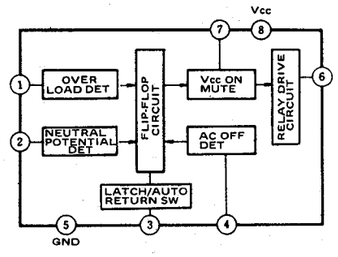
μPC1270H
(NEC)



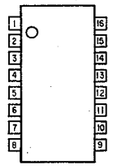
μPC1237H
(NEC)

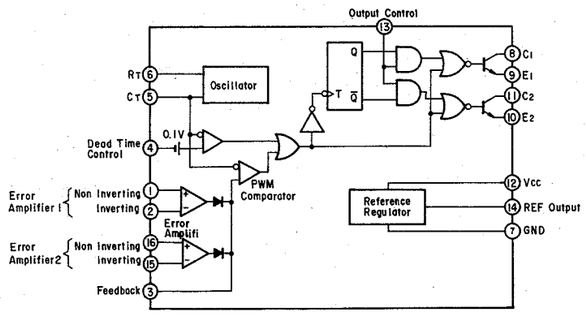






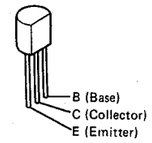
IR3M02
(Sharp)



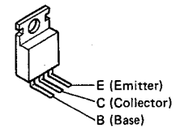


• TRANSISTORS

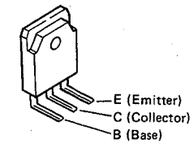
2SC1815(GR), (Y/GR), (Y), (BL)
2SC2274K(E/F)
2SA1015(GR/Y)



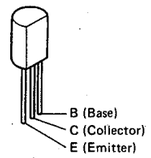
2SA968(Y)/(O)LB110A
2SC2238(Y)/(O)LB110A



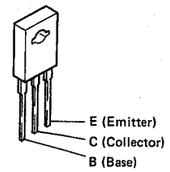
2SA1490(O)/(Y)LB
2SC3854(O)/(Y)LB
2SD1065(S)LB



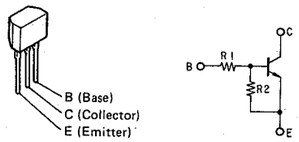
2SB647(D)
2SB764(E/F)
2SD1207T/S



2SA1227A(Q)IL
2SC2987A(Q)IL } **DCA-3500 only**



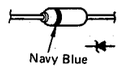
RN1202(10K-10K)
RN2202(10K-10K)



• DIODES (Including LED)

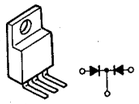
V03C

HZS7A-1
HZS12C-1
HZS15-1
HZS16-1

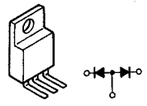


1SS270

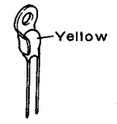
CTU-22S LB



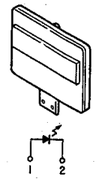
CTU-22R LB



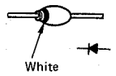
(Posistor)
PTH487A
01BC471TS



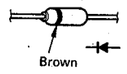
(LED)
SLF-101C



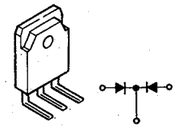
DSA1A2
DCA-3500 only



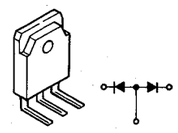
S3V10F (04P15)



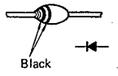
CTU-32S LB



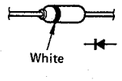
CTU-32R LB
(DCA-3500 only)



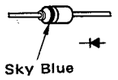
U05C
DCA-3500 only



DSM1A2



1SR124-200AT
DCA-3500 only



EXPLODED VIEW OF PARTS LIST (for DCA-3500)

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
1	2-D	4170290005	HEAT SINK L	1
2	2-D	4122133000	STAY A	1
3	3-C	4122158001	STAY C	1
4	2-D	2730240028	TRANSISTOR 2SC2238(Y)/(O)LB110A	4
5	2-D	2730336013	TRANSISTOR 2SC3854(O)/(Y)LB	4
6	2-D	2710204013	TRANSISTOR 2SA1490(O)/(Y)LB	4
7	3-C	2710140025	TRANSISTOR 2SA968(Y)/(O)LB110A	4
8	2-D	2760416000	POSISTOR PTH487A01BC471TS	3
9	2-C	4150347004	INSULATING SHEET	10
10	3-C	4150234007	INSULATING SHEET	18
11	3-D	4150181008	WASHER (B-17)	10
12	6-D	4170291004	HEAT SINK R	1
13	4-E	4122134009	STAY B	1
14	5-D	4122159000	STAY D	1
15	2-E	4170286103	HEAT SINK F	1
16	2-D	4122135008	FRONT STAY	1
17	4-E	2740113019	TRANSISTOR 2SD1065(S)LB	6
18	3-C	2710219008	TRANSISTOR 2SA1227A(Q)IL	1
19	3-C	2730353009	TRANSISTOR 2SC2987A(Q)IL	1
20	4-E	2760415001	DIODE CTU-22S LB	1
21	4-E	2760415014	DIODE CTU-22R LB	1
22	5-E	2760487000	DIODE CUT-32S LB	1
23	5-E	2760488009	DIODE CTU-32R LB	1
24	4-D	4170287102	RADIATOR	1
25	5-D	1U-1432	POWER SUPPLY UNIT	1s
26	7-C	4110649108	BOTTOM PLATE	1
27	6-D	4150372008	INSULATING SHEET	1
28	6-E	4410790003	TERMINAL BRACKET	1
29	3-B	1441609001	TOP PANEL ASS'Y	1
30	4-C	3939281007	SLF-101C LED	1
31	7-D	5131240022	RATING SHEET	1
32	3-C	1U-1453	POWER AMP UNIT	1s
33	7-D	2050393008	6P TERMINAL BLOCK	1
34	4-A	5131269003	ADJUSTMENT SHEET	1
35	5-B	4610329038	RUBBER SHEET	1
36	4-B	2034313075	3P EH CONNECTOR CORD	1
37	7-B	4610329041	RUBBER SHEET	1
38	7-B	4610329054	RUBBER SHEET	1
39	5-A	4610329067	RUBBER SHEET	1
40	4-C	4150398008	INSULATING SHEET	1
41	4-D	4150401105	INSULATING SHEET	1
			SCREWS	
51	2-D	4737005073	TAPPING SCREW (S) 3x5	14
52	3-D	4700010008	PAN SCREW WITH S.W 3x8	10
53	3-D	4737005002	TAPPING SCREW (S) 3x10	18
54	3-D	4752003005	SPRING WASHER ϕ3	18
55	1-E	4712305028	F. HEAD SCREW 3x10 BLACK	4
56	3-E	4737002034	TAPPING SCREW (S) 3x6	11
57	6-D	4770064107	FIXING SCREW	6
58	6-B	4737500044	TAPPING SCREW (P) 3x8 BLACK	2
59	2-A	4755109003	HEX. SCREW 4x6	6
60	3-D	4751003006	WASHER ϕ3	3
61	7-D	4737005028	TAPPING SCREW (S) 3x14	2
62	6-B	4737007026	TAPPING SCREW (S) 4x16 BLACK	4
63	6-B	4713201024	BIND SCREW 2.6x4	2
64	6-D	4737500002	TAPPING SCREW (P) 3x6	2

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
			PACKING & ACCESSORIES (not including EXPLODED VIEW)	
101		5050061007	ENVELOPE	1
102		5111500009	INST. MANUAL	1
103		5150333004	GUARANTEE CARD	1
104		5150337107	CUSTOM CARD	1
105		5050076115	POLYCOVER	1
106		4700022009	PAN SCREW WITH SW 4x16	4
107		4751005004	WASHER ϕ4	4
108		SC-1050H	NUT	4
109		4718006004	TAPPING SCREW (1) 4x12	4
110		5050099040	POLY COVER	1
111		5030596000	CUSHION	2
112		5011158001	INDIVIDUAL CARTON	1
113		5011159000	MASTER CARTON	1/3

Note: Parts with ★marks are not shown in the exploded view.

EXPLODED VIEW OF PARTS LIST (for DCA-3400)

Ref. No.	Address	Part No.	Part Name & Descriptions	Q'ty
1	3-B	4170282000	HEAT SINK L	1
2	2-D	4122133000	STAY A	1
3	3-D	2730240028	TRANSISTOR 2SC2238(Y)/(O)LB110A	4
4	3-D	2730336013	TRANSISTOR 2SC3854(O)/(Y)LB	4
5	3-C	2710204013	TRANSISTOR 2SA1490(O)/(Y)LB	4
6	3-C	2710140025	TRANSISTOR 2SA968(Y)/(O)LB110A	4
7	3-C	4150347004	INSULATING SHEET	12
8	3-C	4150234007	INSULATING SHEET	12
9	4-D	4150181008	WASHER (B-17)	12
10	6-D	4170283009	HEAT SINK R	1
11	3-E	4122134009	STAY B	1
12	2-E	4120284105	HEAT SINK F	1
13	2-D	4122135008	FRONT STAY	1
14	3-C	2740113019	TRANSISTOR 2SD1065(S)LB	4
15	3-C	2760415001	DIODE CTU-22S LB	2
16	3-C	2760415014	DIODE CTU-22R LB	2
17	5-D	1U-1429	AMP UNIT	1s
18	7-E	4410790003	TERMINAL BRACKET	1
19	6-D	4110640107	BOTTOM PLATE	1
20	7-D	4150367000	INSULATING SHEET	1
21	3-B	1441589008	TOP PANEL ASS'Y	1
22	4-C	3939281007	SLF-101C LED	1
23	7-D	5131240019	RATING SHEET	1
24	4-C	4122158001	STAY C	1
25	5-D	4122159000	STAY D	1
26	3-D	2760416000	POSISTOR PTH487A01BC471TS	3
27	7-D	2050393008	6P TERMINAL BLOCK	1
28	4-A	5131256003	ADJUSTMENT SHEET	1
29	4-A	4610329009	RUBBER SHEET	2
30	4-D	4610329012	RUBBER SHEET(for TL202 UP)	1
31	4-D	4610329025	RUBBER SHEET(for TL201 UP)	1
32	5-B	2034308022	3P CONNECTOR CORD	1
33	7-C	4610329038	RUBBER SHEET	2
		SCREWS		
51	2-D	4737005073	TAPPING SCREW (S) 3x5	14
52	4-D	4700010008	PAN SCREW WITH S.W 3x8	12
53	3-D	4737005002	TAPPING SCREW (S) 3x10	12
54	3-D	4752003005	SPRING W. ϕ3	12
55	4-E	4737002018	TAPPING SCREW (2) 3x8	5
56	1-E	4712305028	F. SCREW 3x10 B	4
57	6-B	4737500044	TAPPING SCREW (P) 3x8 B	1
58	3-A	4755109003	HEX. SCREW 4x6	6
59	3-D	4751003006	WASHER ϕ3	3
60	7-D	4737005028	TAPPING SCREW (S) 3x14	2
61	6-B	4737002034	TAPPING SCREW (S) 3x6-B	4
62	6-B	4737007026	TAPPING SCREW (S) 4x16-B	4
63	6-D	4770064107	FIXING SCREW	6
64	2-D	4751003019	WASHER ϕ3-B	2
		PACKING & ACCESSORIES (not including EXPLODED VIEW)		
101		5050061007	ENVELOPE	1
102		5111497002	INST. MANUAL	1
103		5150333004	GUARANTEE CARD	1
104		5150337107	CUSTOM CARD	1
105		5050076115	POLYCOVER	1
106		4700022009	PAN SCREW 4x16	4
107		4751005004	WASHER ϕ4	4
108		SC-1050H	NUT	4
109		4718006004	TAPPING SCREW (1) 4x12	4
110		5050099040	POLYCOVER	1
111		5030596000	CUSHION	2
112		5011156003	INDIVIDUAL CARTON	1
113		5011157002	MASTER CARTON	1/3
114		5290044004	MINI DRIVER	1
115				

Note: Parts with ★ marks are not shown in the exploded view.

SCHEMATIC DIAGRAM (DCA-3500)

1 2 3 4 5 6

A

IC	IC603 IC1 IC201 IC2 IC202 IC601 IC602 IC204 IC3 IC203 IC4 IC5 IC205 IC6 IC206 IC604 IC7 IC207 IC8 IC208
Transistor	TR1 TR201 TR2 TR202 TR3 TR9 TR203 TR209
Diode (Including LED)	D601 D602 ZD601 ZD602 ZD202 ZD201 ZD1 ZD2 ZD4 ZD6 D3 D5 D203 D205 D4 D6 D204 D206 D603 D604 ZD7 ZD8 ZD9 ZD10 ZD207 ZD208 ZD209 ZD210 D7 D605 D207 D9 D8 D11 D208 D13 D15 D17 D209 D211 D213 D215 D217 D219 D14 D16 D18 D20 D210 D12

B C D E F G H

IU-1453-1

IU-1453-2

IU-1453-3

IU-1453-4(1/5)

IU-1453-4(2/5)

IU-1453-4(3/5)

IU-1453-4(4/5)

IU-1453-4(5/5)

EXT ⟷ INT

L CH SUB

R CH

L CH FRONT

L CH REAR

R CH FRONT

R CH REAR

IC1 M5218L

IC2 M5218L

IC3 M5218L

IC4 M5218L

IC201 M5218L

IC202 M5218L

IC203 M5218L

IC204 M5218L

IC601 M5218L

IC602 M5218L

IC603 M5218L

IC604 μPC1270H

IC5 μPC1270H

IC6 μPC1270H

IC205 μPC1270H

IC206 μPC1270H

IC7 M5218L

IC8 M5218L

IC207 M5218L

IC208 M5218L

IC102 M5218L

S1-A S1-B S1-C S1-D S1-E S2-A S2-B

VR1a 20kA VR1b 20kA VR2a 20kA VR2b 20kA VR601 20kA VR203 2.2k VR204 2.2k VR3 2.2k VR4 2.2k

D9,11,13,15,17,19 ISS270

D209,211,213,215,217,219 ISS270

D10,12,14,16,18,20 ISS270

D210,212,214,216,218,220 ISS270

TR1 2SC1815 (GR)

TR2 2SC1815 (GR)

TR201 2SC1815 (GR)

TR202 2SC1815 (GR)

TR3 2SC2238 (O)/(Y)

TR4 2SC2238 (O)/(Y)

TR203 2SC2238 (O)/(Y)

TR204 2SC2238 (O)/(Y)

TR9 2SA968 (O)/(Y)

TR10 2SA968 (O)/(Y)

TR209 2SA968 (O)/(Y)

TR210 2SA968 (O)/(Y)

6 7 8 9 10 11

IC402
IC401

TR3 TR4 TR602 TR205 TR206 TR606 TR211 TR404 TR501 TR506 TR503 TR509
TR9 TR10 TR604 TR207 TR208 TR11 TR12 TR502 TR508 TR504 TR510
TR203 TR204 TR5 TR6 TR212 TR505 TR402 TR401 TR405
TR209 TR210 TR7 TR8 TR507 TR403

D17 D215 D14 D212 D612 D501 D502 D508 D509 D507
D19 D217 D16 D214 D21 D503 D504 ZD401 D514 D512
D209 D219 D18 D216 D221 D505 D506
D211 D10 D20 D218 D22 ZD404 D401 D510 D511 D409 LD401
D213 D12 D210 D220 D222 ZD403

IU-1432

C657 47/50 L501 270μM D501 ISR124-200A T501 L506 0.4μM F501 15A
C656 1.0 (CF) D502 ISR124-200A D507 S3V10 C516 1000/16 C517 0.033 (CF)
TR602 2SC2987 (Q) C503 470/50 L502 D503 CTU-22S TR501 2SD1065S R505 1.0Ω(1/4W) T502 TR503 2SC2274K R513 560
R660-a 0.22 (3W) C507 2200/50 R501 10k C514 100/10 R511 10k (1/4W) R522 100
C673 330/6.3 R611 470 R662 10Ω(1W)(NB) RL401-A C506 0.047 (CF) D508 D509 C515 220/16 R523 100
R660-b 0.22 (3W) L601 1μH C509 0.047 (CF) C500 2200/50 R502 10k D504 CTU-22R C511 4700/16 C513 0.01Z (CF) R506 1.0Ω(1/4W) TR502 2SD1065S TR504 2SC2274K R512 560
R664 180 D612 1SS270 C504 470/50 L503
TR604 2SA1227 (Q) C653 1.0 (CF) TR606 2SC1815 (GR/Y) C654 4.7/35 L504 270μM D505 ISR124-200 D506 ISR124-200
C652 22/50 R517

C521 0.01Z
C522 0.047 (CF) C524 4700/35 L507 D510 CTU-32S T503 R507 1.0Ω(1/4W) L509 0.4μH F502 30A
C525 0.047 (CF) R503 10k R504 10k C527 4700/35 L508 D511 CTU-32R TR505 2SD1065S TR506 2SD1065S R509 1.0Ω(1/4W) T504 TR509 2SC2274K R515 560
R540 4.7 (3W) R541 1.2 (3W) C528 4700/16 C530 0.047 (CF) C531 0.033 (CF) R550 1.2 D514 UU50 R514 10k C506 470/16 R521 100 R516 560
R519 10Ω(1W) C533 220/10 TR507 2SD1065S TR508 2SD1065S R508 1.0 (1/4W) TR510 2SC2274K R520 100
D512 S3V10 C537 2200/16 C538 0.047 (CF)

R451 6.8k R417 1k IC402 IR3M02 TR402 2SB764E(F) L401 500μH F401 1A
C406 470/6.3 R425 680 C410 3300/16
C407 0.001 (CD) R404 1k ZD401 HZ7A-1
R420 6.8k R421 15k C408 100/16 TR403 2SC1815 (Y) R425 22k C409 0.01 (CF) R426 10k R504 820
CLOCK 38kHz

TR404 2SD1207 R402 47Ω(NB) R413 6.8kΩ(1/4W) R412 1k R414 15k R415 180k R416 2.2kΩ(1/2W) TR405 RN1202 LD401 101C
R401 560 (NB) D401 DSA1A2-3 IC401 μPC1237H TH401~403 PTH487A01BE471TS TH401 TH402 TH403
C430 4.7/50 C431 10/35 RL401~RL403 G5R-2232P x 3 ZD404 HZ12-2 ZD403 HZ12-2 R405 220k C401 10/16 C402 100/10 R406 390Ω (1/4W) C403 220/10 C404 100/6.3 D409 1SS270 R409 1k R410 100 R411 1k C405 1/50 TR401 2SA1015 (GR/Y)

TR3 TR5 C79 1/50 C81 0.047 (CF) C87 1/50 R103 180 (1/2W) R105-a 0.22 (3W) R105-b 0.22 (3W) R107 240 R109 10Ω(1W)(NB) L1 1μH D21 1SS270 R111 180 C83 4.7/35 TR11 2SC1815 (GR/Y)
TR9 2SA968 (O)(Y) TR7 2SA1490 (O)(Y) C77 47p C85 0.047(CF)

TR203 TR205 C279 1/50 C281 0.047 (CF) C287 1/50 R303 180 (1/2W) R305-a 0.22 (3W) R305-b 0.22 (3W) R307 240 R309 10Ω(1W)(NB) L201 1μH D221 1SS270 R311 180 C285 4.7/35 TR211 2SC1815 (GR/Y)
TR209 2SA968 (O)(Y) TR207 2SA1490 (O)(Y) C277 47p C285 0.047(CF)

TR4 TR6 C80 1/50 C82 0.047 (CF) C88 1/50 R104 180 (1/2W) R106-a 0.22 (3W) R106-b 0.22 (3W) R108 240 R110 10Ω(1W)(NB) L2 1μH D22 1SS270 R112 180 C84 4.7/35 TR12 2SC1815 (GR/Y)
TR10 2SA968 (O)(Y) TR8 2SA1490 (O)(Y) C78 47p C86 0.047(CF)

TR204 TR206 C280 1/50 C282 0.047 (CF) C288 1/50 R304 180 (1/2W) R306-a 0.22 (3W) R306-b 0.22 (3W) R308 240 R310 10Ω(1W)(NB) L202 1μH D222 1SS270 R312 180 C284 4.7/35 TR212 2SC1815 (GR/Y)
TR210 2SA968 (O)(Y) TR208 2SA1490 (O)(Y) C278 47p C286 0.047(CF)

BATT 2
GND 2
BATT 1
GND 1
Acc
REMOTE
SUB WOOFER
FRONT L CH
REAR L CH
FRONT R CH
REAR R CH
L0401 101C

C655 0.033(CF) R663 10Ω(1W)(NB)
C89 0.033(CF) R115 10Ω(1W)(NB)
C289 0.033(CF) R313 10Ω(1W)(NB)
R114 10Ω(1W)(NB) C90 0.033(CF)
R314 10Ω(1W)(NB) C290 0.033(CF)

+B LINE
−B LINE
SIGNAL LINE

NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD P = MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

SCHEMATIC DIAGRAM (DCA-3400)

1 2 3 4 5 6

A

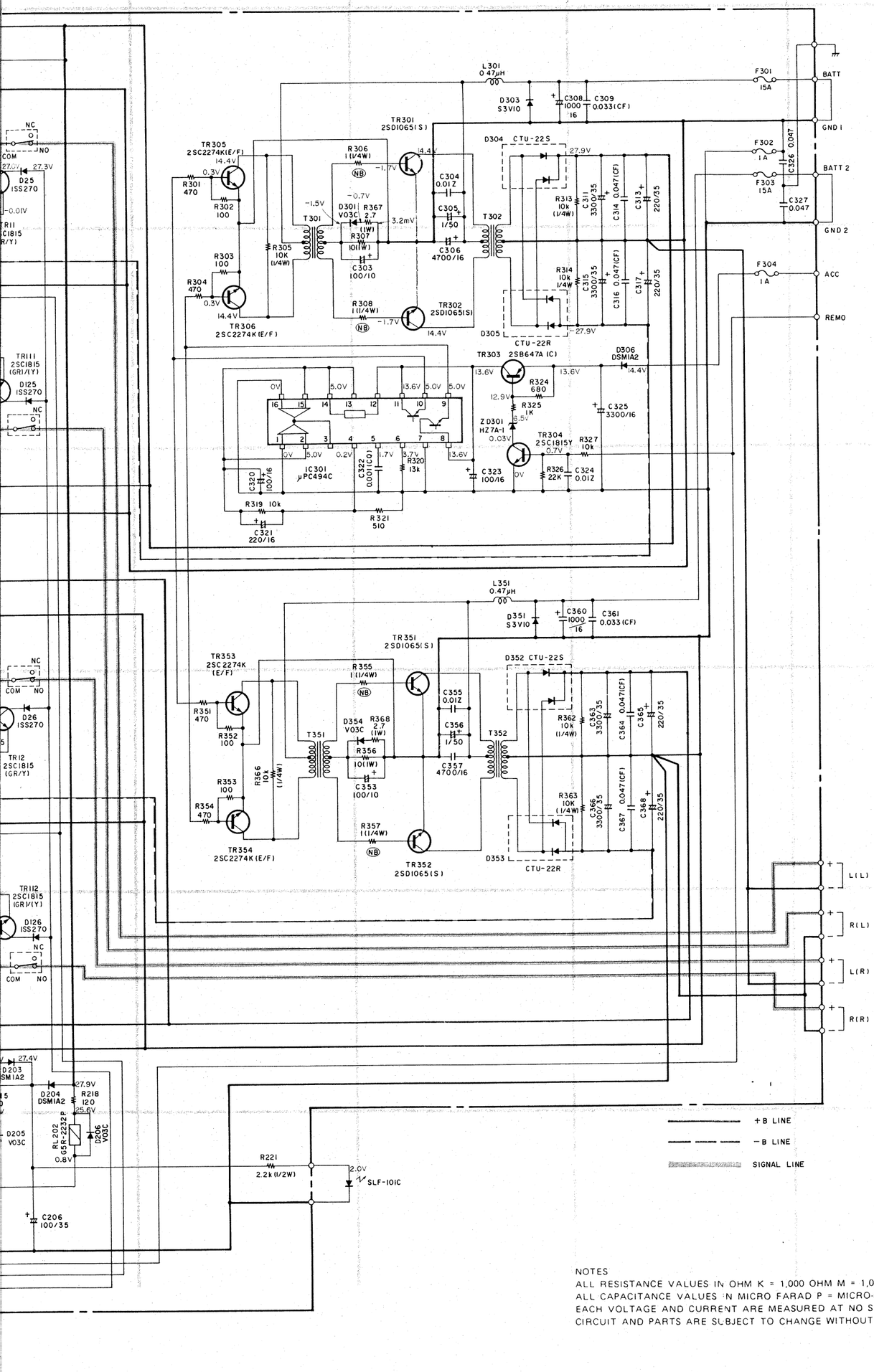
IC	IC1 IC101 IC2 IC102 IC3 IC103 IC4 IC104 IC5 IC6 IC201
Transistor	TR1 TR3 TR5 TR7 TR9 TR11 TR101 TR107 TR109 TR111 TR103 TR105 TR2 TR12 TR4 TR6 TR8 TR10 TR102 TR112 TR108 TR110 TR104 TR106 TR201
Diode (including LED)	ZD5 D3 D5 DI03 DI05 ZDI05 ZD6 D4 D6 DI04 DI06 ZDI06 ZD1 ZD3 ZDI01 ZDI03 ZD2 ZD4 ZDI02 ZDI04 D201 D202 DI1 DI11 DI2 DI12 DI3 DI5 DI7 DI9 D21 D23 DI13 DI15 DI17 DI19 DI21 DI23 DI4 DI6 DI8 D20 D22 D24 DI14 DI16 DI18 DI20 DI22 DI24 D25 DI25 D26 DI26 D203 D205

B C D E F G H

6 7 8 9 10 11

TR305
TR306
TR301
TR302
TR303
TR304
TR353
TR354
TR351
TR352

D25
DI25
D26
DI26
D203 D204
D205 D206
D301
D354
D303
D304
D305
ZD301
D351
D352
D353



NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
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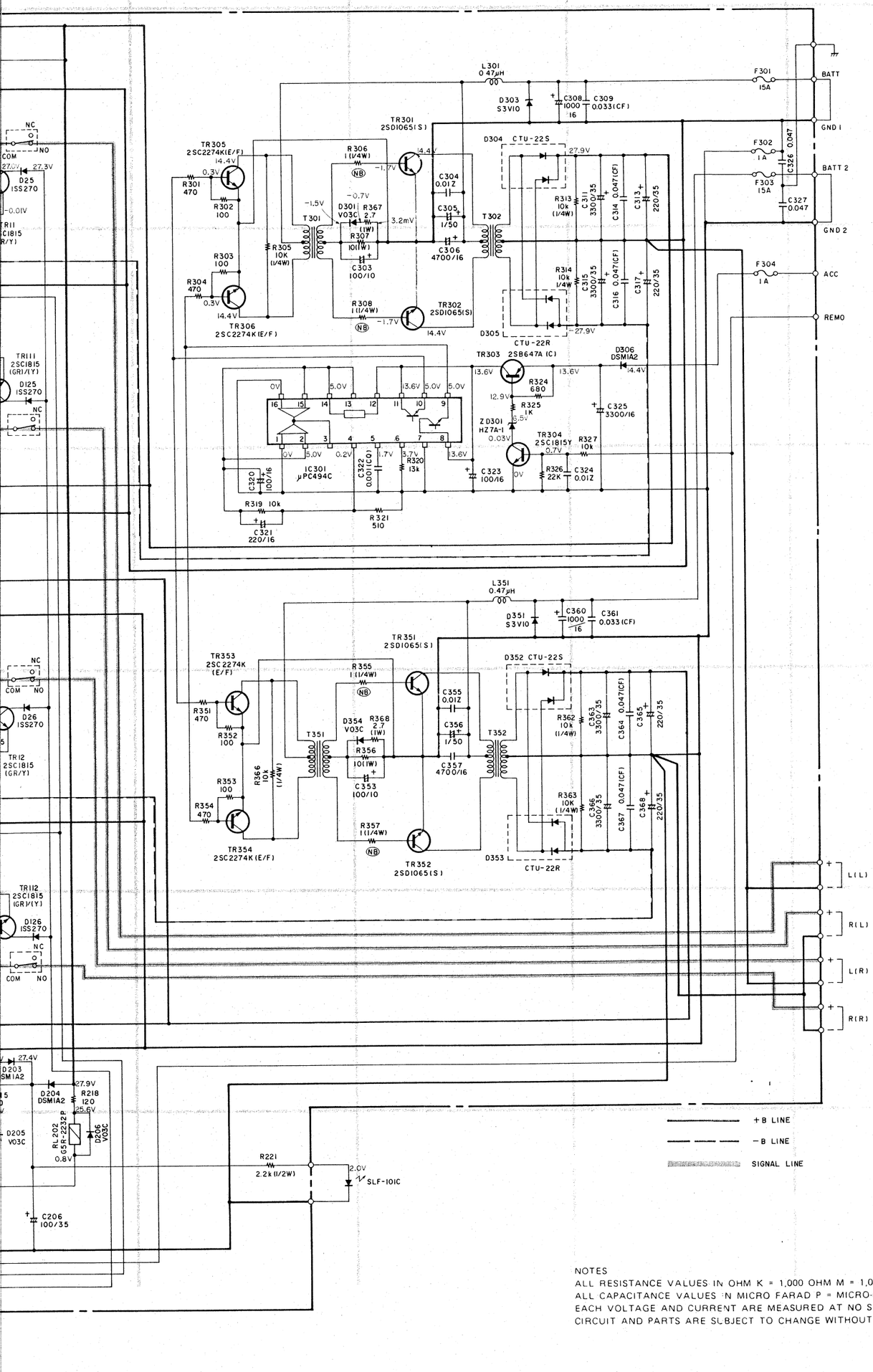
6 7 8 9 10 11

TR305
TR306
TR301
TR302
TR303
TR304
TR353
TR354
TR351
TR352
D25
DI25
D26
DI26
D203 D204
D205 D206
D301
D354
D303
D304
D305
ZD301
D351
D352
D353



NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
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EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
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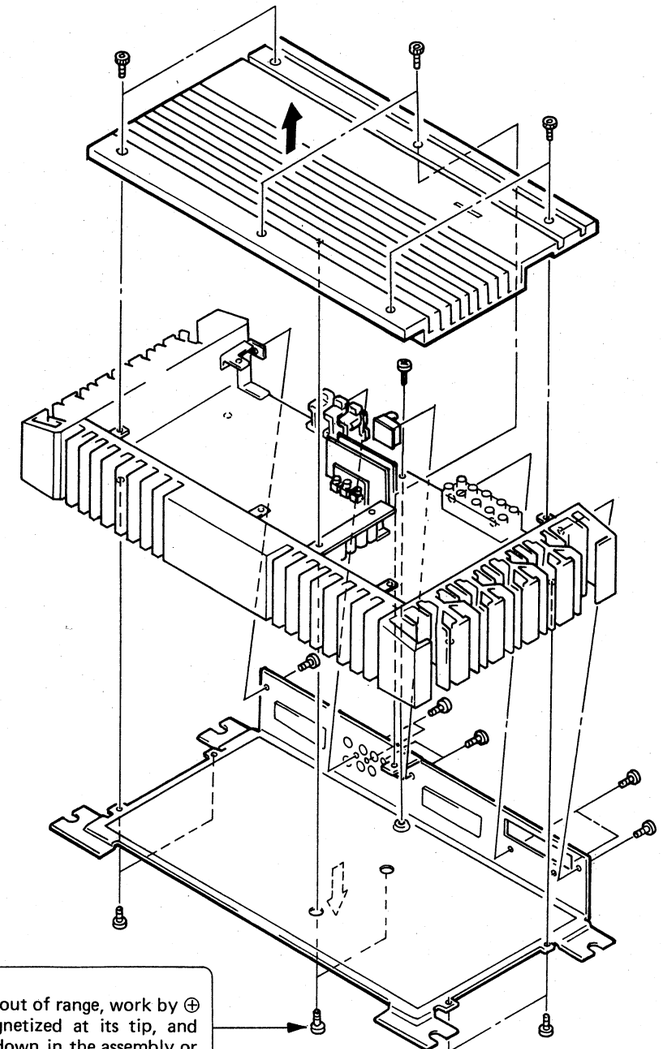
REMOVAL OF EACH SECTIONS

- DCA-3500



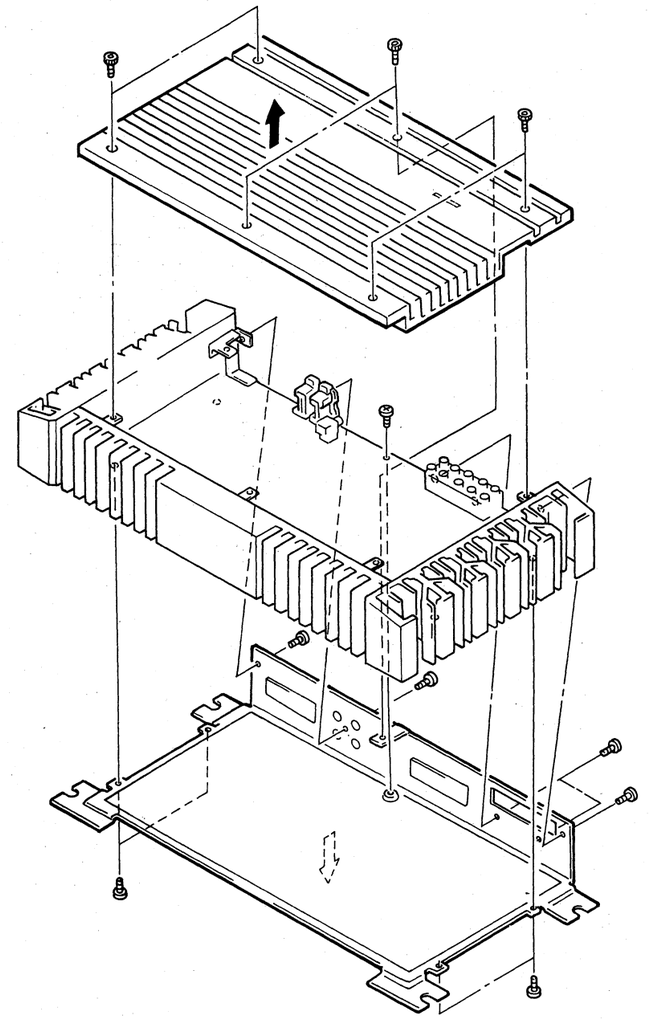
NOTICE
As these 2 screws are out of range, work by ⊕ screwdriver with magnetized at its tip, and take care not to fall down in the assembly or detaching operation.

PRECAUTIONS

1. DENON Power Amplifier DCA-3500 and 3400 is only available for use in negative (–) ground automobiles. It cannot be used positive (+) ground automobiles.
2. DENON Power Amplifier DCA-3500 and 3400 will operate properly with 14.4 V (11 V–16 V) car batteries. You cannot use it for 24 V or other types of car batteries.
3. For fuse replacement, replace only with same amperage as old one. Improper fuses can lead to serious damage to the unit. (Accessible by removing the top panel.)
4. Do not allow any liquid or small objects to get inside the unit.

DENON

- DCA-3400



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